CHEMISTRY WITH MATHEMATICS
MSci /
UCAS CODE: F1GC
2021 ENTRY

www.ucl.ac.uk/prospectus
This four-year programme offers an extra year on top of the Chemistry with Mathematics BSc in which to undertake an original chemical research project and study chemistry and its relationship with other disciplines in greater depth.

**Key information**

**Programme starts**
September 2021

**Location**
London, Bloomsbury

**Degree benefits**

// Consistently regarded as one of the best chemistry departments in the UK (ranked top 5 by Times Higher Education 2020 for universities offering Chemistry in the UK), we offer you an excellent education with high standards of teaching.

// You will benefit from our outstanding research profile as you are taught by lecturers who are experts in a wide range of chemistry-related fields.

// The MSci allows you to study more advanced topics and to work on an extended research project within one of our internationally renowned research groups.

// We offer access to state-of-the-art facilities, enhanced by our strong affiliation to other centres of excellence such as the London Centre for Nanotechnology.

**Accreditation**
The Royal Society of Chemistry accreditation is a peer review process founded on the judgement of professional chemists. It provides a structured mechanism to assess, evaluate, and enhance the quality of degree programmes and demonstrates a commitment to continuous improvement.

**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).

Chemistry with Mathematics is offered either as a three-year BSc or as a four-year MSci. The first two years of study are identical, so you can defer which to opt for until the end of your second year. We advise you to select the four-year MSci programme initially as this keeps more options open.

The chemistry content directly follows that of the Chemistry MSci programme. You will be exposed to the full breadth of chemistry with an emphasis on developing core chemical skills. You will also take compulsory mathematics modules together with further optional modules.

The Mathematics component of the course takes up around 25% of the whole programme including a range of compulsory modules in years 1 and 2.

In your final year you will undertake an extended project in one of our world leading research groups. You will also study advanced optional modules of your choosing including advanced Mathematics modules.

Upon successful completion of 480 credits, you will be awarded a MSci (Hons) in Chemistry with Mathematics.

Please note that the list of modules given here is indicative. This information is published a long time in advance of enrolment and module content and availability is subject to change.

**YEAR ONE**

**Compulsory module(s)**

// Introduction to Chemical Principles
// Chemical Skills
// Basic Inorganic Chemistry
// Basic Organic Chemistry
// Basic Physical Chemistry
// Mathematics for Science 1
// Mathematics for Science 2

**Optional modules**

Example available optional modules include:

// Physics for Chemists
// Biochemistry and Molecular Biology
// The Earth
// Understanding Management
// Languages
// Introductory Statistical Methods and Computing

**YEAR TWO**

**Compulsory module(s)**

// Mathematical Methods In Chemistry
// Inorganic Chemistry
// Organic Chemistry
// Physical Chemistry
// Mathematics for Physics and Astronomy

**Optional modules**

// All second year modules are compulsory.
YEAR THREE

Compulsory module(s)

- Synthesis and Characterisation Techniques in Chemistry
- Instrumental and Computational Techniques in Chemistry
- Advanced Topics in Inorganic Chemistry
- Advanced Topics in Physical Chemistry
- Advanced Topics in Organic Chemistry
- Chemical Literature

Optional modules

You will select two other modules from a wide range of options in mathematics, chemistry and other approved undergraduate courses. One of these modules must be either:

- Concepts in Computational Chemistry
- Numerical Methods in Chemistry

The remaining module can be selected from a wide range of advanced mathematics and chemistry options. Chemistry options include:

- Inorganic Rings, Chains and Clusters
- Organic Photochemistry, Radicals and Heterocycles
- Principles of Drug Design
- New Directions in Materials Chemistry
- Scientific Programming

FINAL YEAR

Compulsory module(s)

- Advanced Chemical Research Project

Optional modules

You will select four other modules from a wide range of options in mathematics, chemistry and other approved undergraduate courses. At least one of these modules must be either:

- Numerical Methods in Chemistry
- Topics in Quantum Mechanics

The three remaining modules can be selected from a wide range of advanced mathematics and chemistry options. Chemistry options include:

- Intense Radiation Sources for Chemistry
- Stereochemical Control in Asymmetric Total Synthesis
- Synthesis and Biosynthesis of Natural Products
- Frontiers of Experimental Physical Chemistry
- Catalysis
- Structural Methods in Modern Chemistry
- Advanced Topics in Environmental and Energy Materials
- Biological Chemistry

Your learning

Your learning will combine lectures, practical classes and group workshops. In addition, you will attend small group tutorials which provide specialised support for the core modules.

Assessment

Your learning will be assessed using a variety of methods including end-of-year examinations, laboratory reports, problem sheets, essays, posters and presentations. In the final year your research project will be assessed by a combination of reports, presentation and oral examination.

Accessibility

Details of the accessibility of UCL buildings can be obtained from AccessAble. Further information can also be obtained from the UCL Student Support & Wellbeing team.

Your career

As a UCL Chemistry graduate you will have developed both discipline-based and highly sought after analytical skills, for example in logical thought and numeracy.

On completion of your degree you will have the obvious option of pursuing a career within the chemical industry. This is recognised as one of the most exciting and successful contributors to the UK economy, for example in the pharmaceutical, biotechnology and nanotechnology sectors.

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.

Together with essential academic requirements, we are looking for strong evidence in your personal statement of your interest in the subject and your understanding of it. These requirements may be evidenced by examples of project work, relevant work experience or, perhaps, through your knowledge of current events involving chemistry. We also look for your ability to communicate clearly in English.
Entry requirements

**A LEVELS**

**Standard Offer:** AAA. Mathematics and Chemistry required.

**GCSE:** English Language at grade C or 5, plus Mathematics at grade B or 6. 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.

**Contextual Offer:** AAB. AA in Chemistry and Mathematics required

**GCSE:** English Language at grade C or 5, plus Mathematics at grade B or 6. 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:** 38 points. A score of 18 points in three higher level subjects including 6 in Chemistry and Mathematics, with no score below 5.

**Contextual Offer:** 36 points. A score of 17 points in three higher level subjects including 6 in Chemistry and Mathematics, with no score below 5.

**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/prospectus.

**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.

TUITION FEES

The fees indicated are for undergraduate entry in the 2021/22 academic year. The UK 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 2021/22 entrants for each year of study on the programme, unless otherwise indicated below.

- **UK & EU:** £9,250 (2021/22)
- **Overseas:** £31,200 (2021/22)

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

ADDITIONAL COSTS

Students on this programme have free access to electronic copies of over 100 textbooks and free laboratory coats. This programme does not have any additional costs outside of purchasing books or stationery, printing, thesis binding or photocopying.

A guide including rough estimates for these and other living expenses is included on the UCL Fees and funding pages. If you are concerned by potential additional costs for books, equipment, etc., please get in touch with the relevant departmental contact (details given on this page).

FUNDING

UCL Chemistry offers a number of scholarships which will be advertised on the departmental website as appropriate.

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

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Department: Chemistry

UK withdrawal from the EU

For up-to-date information relating to specific key questions following the UK’s withdrawal from the EU, please refer to: www.ucl.ac.uk/brexit.