CHEMISTRY WITH MATHEMATICS
MSc / UCAS CODE: F1GC
2019 ENTRY

www.ucl.ac.uk/prospectus
Chemistry with Mathematics MSci /

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 2019

Location
London, Bloomsbury

Degree benefits

// Consistently regarded as one of the best chemistry departments 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.

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).

This programme 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 initially as this keeps more options open.

The chemistry content directly follows that of the single-subject Chemistry programme. You will cover the full range of chemistry core components, together with relevant optional modules in chemistry such as in quantum mechanics, computational chemistry and numerical methods.

The mathematics component takes up around 25% of the programme. In the first two years there are a number of compulsory mathematics modules including modules in pure mathematics, advanced calculus and geometry, group theory and linear algebra, while in the third year you choose from a wide range of mathematics modules.

In the final year you will undertake a chemical research project and optional modules, allowing you to specialise in the field of chemistry of your choice. You will also have the opportunity to select advanced mathematics modules.

YEAR ONE

Core or compulsory module(s)

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

Optional modules

// You will select 0.5 credits from a wide range of optional modules.

YEAR TWO

Core or compulsory module(s)

// Algebra
// Mathematical Methods In Chemistry
// Principles of Inorganic Chemistry
// Principles of Organic Chemistry
// Principles of Physical Chemistry

Optional modules

// All second year modules are compulsory.
YEAR THREE

Core or compulsory module(s)
- Advanced Topics in Inorganic Chemistry
- An Introduction to Research Methods
- Principles and Methods of Organic Synthesis

Optional modules
- Either:
  - Concepts in Computational and Experimental Chemistry
  - Numerical Methods in Chemistry
- Or:
  - Biological Chemistry/Biological Macromolecules
  - Concepts in Computational and Experimental Chemistry
  - Inorganic Rings, Chains and Clusters
  - New Directions in Materials Chemistry
- Plus 0.5 credits of advanced chemistry or advanced mathematics options. Chemistry options may include:
  - Biological Chemistry/Biological Macromolecules
  - Concepts in Computational and Experimental Chemistry
  - Inorganic Rings, Chains and Clusters
  - New Directions in Materials Chemistry
  - Numerical and Analytical Methods
  - Organometallic Chemistry
  - Pathways, Intermediates and Function in Organic Chemistry
  - Principles of Drug Design
  - Structural Methods in Modern Chemistry

FINAL YEAR

Core or compulsory module(s)
- Advanced Chemical Research Project

Optional modules
- Either:
  - Numerical Methods in Chemistry
  - Topics in Quantum Mechanics
- Or:
  - Biological Chemistry/Biological Macromolecules
  - Concepts in Computational and Experimental Chemistry
  - Inorganic Rings, Chains and Clusters
  - Organometallic Chemistry
  - Pathways, Intermediates and Function in Organic Chemistry
  - Principles of Drug Design
  - New Directions in Materials Chemistry
  - Numerical and Analytical Methods
  - Structural Methods in Modern Chemistry

Your learning
Your learning will combine lectures, practical classes and group workshops. In addition you will attend tutorials in groups of four to six students which provide specialised support for the core modules.

Assessment
Modules usually involve at least two methods of assessment: coursework (problem sheets, essays or poster presentations), an examination, or lab classes. Feedback, such as face-to-face marking in laboratories, is always provided. Your final-year project will be assessed through a written report, a presentation and an oral examination.

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.

First career destinations of recent graduates (2013-2015) of this programme at UCL include:
- Data Analyst, Rightmove.co.uk
- Commercial Pilot Training, CTC Aviation Group Ltd
- Full-time student, PhD in Surgery and Interventional Science at UCL
Entry requirements

**A LEVELS**
Standard Offer: AAA. Mathematics and Chemistry required.
Contextual Offer: AAB. AA in 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

**IB DIPLOMA**
Standard Offer: 38. A score of 18 points in three higher level subjects including Mathematics and Chemistry at grade 6, with no score below 5.
Contextual Offer: 36. A score of 17 points in three higher level subjects including Mathematics and Chemistry at grade 6, 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 2018/19 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 2018/19 entrants for each year of study on the programme, unless otherwise indicated below.

// UK & EU: £9,250 (2018/19)
// Overseas: £25,960 (2018/19)

Overseas fees for the 2019/20 academic year are expected to be available in July 2018. Undergraduate UK/EU fees are capped by the UK Government and are expected to be available in October 2018. 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**
If you are concerned by potential additional costs for books, equipment, etc. on this programme, please get in touch with the relevant departmental contact (details given on this page).

**FUNDING**
UCL Chemistry offers a number of scholarships, including the Bader Bursaries, GSK Bursary, UCL Chemistry Entrance Scholarships and the Kathleen Lonsdale Bursary.

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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**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/ucl-and-europe

**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