Chemical Physics BSc

Chemical physics is an area of modern chemistry that will fascinate students who enjoy the science common to physics and chemistry. You will gain a fundamental understanding of the origins of chemical behaviour, while exploring exciting developments at the interface of chemistry with the other physical sciences.

Key information

Programme starts
September 2020

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 department has a rich history at the intersection of chemistry and physics, and is home to UCL’s Centre for Computational Chemistry and the Centre for Cosmic Chemistry and Physics.

// 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).

Chemical Physics is offered either as a three-year BSc programme or as a four-year MSci. Modules are identical for the first two years of study, so you can defer which to opt for until the end of your second year. We advise you, however, to select the four-year MSci programme initially as this gives you the most control over your plans.

Although the Chemical Physics BSc is based on core chemistry modules, there is more scope to develop skills in physics and theoretical aspects of chemistry, and either inorganic chemistry or organic chemistry is omitted after the first year in favour of mathematics, physics and specialist chemical physics modules.

In year one all modules are compulsory, and in year two you will take a combination of compulsory modules together with a number of optional Chemistry modules and further optional modules from outside the department.

In the third year you take further compulsory and optional modules including a literature project and extended laboratory classes.

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
// Physics of the Universe
// Chemical Skills

Optional modules

// All first year modules are compulsory.

YEAR TWO

Core or compulsory module(s)

// Chemical Dynamics
// Introductory Classical Mechanics
// Mathematical Methods in Chemistry
// Principles of Physical Chemistry

Optional modules

// You will select a module of either Inorganic Chemistry or Organic Chemistry, plus a further module in Physics or Mathematics.

FINAL YEAR

Core or compulsory module(s)

// Advanced Practical Chemistry
// Advanced Topics in Physical Chemistry
// Literature Project

Optional modules

// Either Advanced Topics in Inorganic Chemistry or Principles and Methods of Organic Synthesis
// Plus either Concepts in Computational Chemistry or Numerical Methods in Chemistry
// You will also select a further module of Mathematics, Physics or Chemistry and one module from all approved undergraduate options.
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
Each module will usually involve at least two methods of assessment. These may include coursework (problem sheets, essays or poster presentations), an examination, or laboratory classes. We believe in providing feedback to students, such as face-to-face marking in laboratories. Your third-year project will be assessed through a written report.

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.
Entry requirements

A LEVELS
Standard Offer: AAA. Chemistry, Mathematics and Physics required.
Contextual Offer: n/a. n/a

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 total of 18 points in three higher level subjects including 6 in Chemistry, Mathematics and Physics.
Contextual Offer: n/a points. n/a

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 2019/20 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 2019/20 entrants for each year of study on the programme, unless otherwise indicated below.

// UK & EU: £9,250 (2019/20)
// Overseas: £26,740 (2019/20)

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 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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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