MEDICINAL CHEMISTRY BSc / UCAS CODE: F150
2018 ENTRY

www.ucl.ac.uk/prospectus/chemistry
Medicinal chemistry is concerned with the discovery, design and synthesis of new drugs for clinical use. This BSc includes modules in biochemistry, biology, physiology and pharmacology, along with the fundamentals of chemistry necessary to design and synthesise drugs. These provide an understanding of the link between chemical structure and clinical effectiveness.

Key information

Programme starts
September 2018

Location
London, Bloomsbury

Degree benefits

// Consistently regarded as one of the best chemistry departments in the UK, we maintain a position of international excellence in teaching and research in medicinal chemistry.

// Strong links have been developed with the pharmaceutical sector of the industry, and UCL's strength in medicine and life sciences has led to exciting new areas of research collaboration.

// Life sciences are taught throughout the programme ensuring you build up a broad understanding of biological systems to which the chemistry modules are applied.

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

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.

// 94% 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).

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 Medicinal Chemistry programmes are quite different from the others offered by the department as the modules are split equally between chemistry and the life sciences. You will take modules in all aspects of chemistry, but organic chemistry is developed to the greatest extent.

Specialist modules such as Principles of Drug Design, and Principles and Methods of Organic Synthesis are compulsory. Compulsory modules are also taken in a number of life sciences including biochemistry, biology, pharmacology, and physiology. You will have the opportunity to take optional modules in year three and undertake a literature project.

YEAR ONE

Core or compulsory module(s)

- Basic Organic Chemistry
- Basic Physical Chemistry
- Cellular and Molecular Biology
- Introduction to Chemical Principles
- Mammalian Physiology

Optional modules

- All first year modules are compulsory.

YEAR TWO

Core or compulsory module(s)

- Further Topics in Biochemistry
- Fundamentals of Inorganic Chemistry
- General and Systematic Pharmacology
- Introductory Statistical Methods and Computing
- Physical Chemistry for Medicinal Chemistry and Life Sciences

Optional modules

- All second year modules are compulsory.

FINAL YEAR

Core or compulsory module(s)

- Molecular Pharmacology
- Pathways, Intermediates and Function in Organic Chemistry
- Principles of Drug Design
- Principles and Methods of Organic Synthesis
- Synthesis and Characterisation Techniques in Chemistry
- Chemical Literature

Optional modules

- Either:
  - Drug Design and Development
  - Or: Receptor Mechanisms
- Plus a further 0.5 credits from a wide range of chemistry and other 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.

First career destinations of recent graduates (2013-2015) of this programme at UCL include:

- Junior Data Analyst, Hardy Underwriting Bermuda Limited
- PGCE Secondary Teaching (Biology), Goldsmiths, University of London
- Full-time student, DPhil in Organic Chemistry at the University of Oxford
- Healthcare Assistant, Royal Berkshire Hospital (NHS)

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.

UK-based applicants who demonstrate their potential to meet our academic requirements will be invited to visit UCL for a day. The day will include talks, the opportunity to meet current students and a tour of the department and UCL. You will also attend a university-level lecture.
**Entry requirements**

**A LEVELS**

**Grades**
AAA-AAB

**Subjects**
Chemistry plus either one, or preferably two from Biology (preferred), Mathematics or Physics.

**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**

**Points**
36-38 overall.

**Subjects**
A score of 17-18 points in three higher level subjects including Chemistry and either Biology (preferred), Mathematics or Physics, with no score lower than 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

**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.

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**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:** £25,960 (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.

**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/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