MEDICINAL CHEMISTRY MSci / UCAS CODE: F153 2020 ENTRY

www.ucl.ac.uk/prospectus
Medicinal Chemistry MSci /

This four-year programme offers an additional year on top of the Medicinal Chemistry BSc, in which students may undertake an advanced research project in fields such as drug design, chemical biology or organic chemistry.

Key information

Programme starts
September 2020

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.

// UCL Chemistry is at the forefront of developments in chemical biology, enabling you to undertake highly relevant research projects both in UCL Chemistry and in associated UCL departments.

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).

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 biology, physiology, biochemistry and pharmacology. You will also take a literature project in year three.

The focus of your final year will be an extended research project. As a specialist in medicinal chemistry you will have access to cross-disciplinary projects in fields such as drug design, chemical biology and organic chemistry. Advanced taught modules are available in both chemistry and allied life sciences.

<table>
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<tr>
<th>YEAR ONE</th>
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<tbody>
<tr>
<td>Core or compulsory module(s)</td>
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<tr>
<td>Basic Organic Chemistry, Cellular and Molecular Biology, Mammalian Physiology, Chemical Skills</td>
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<tr>
<td>Optional modules</td>
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<tr>
<td>All first year modules are compulsory.</td>
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<th>YEAR TWO</th>
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<tr>
<td>Core or compulsory module(s)</td>
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<tr>
<td>Further Topics in Biochemistry, General and Systematic Pharmacology, Introductory Statistical Methods and Computing, Organic Chemistry, Physical Chemistry for Medicinal Chemistry and Life Sciences</td>
</tr>
<tr>
<td>Optional modules</td>
</tr>
<tr>
<td>All second year modules are compulsory.</td>
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YEAR THREE

Core or compulsory module(s)

- An Introduction to Research Methods for Medicinal Chemistry
- Literature Project
- Molecular Pharmacology
- Pathways, Intermediates and Function in Organic Chemistry
- Principles of Drug Design
- Principles and Methods of Organic Synthesis

Optional modules

- Either:
  - Drug Design and Development
  or:
  - Receptor Mechanisms
- Plus one module from a wide range of options. Options typically taken by Chemistry students include:
  - Biology
    - Human Physiology
    - Introduction to Earth Sciences
    - Introduction to Management
    - Languages
    - Mathematics (further calculus)
    - Physics of the Universe

FINAL YEAR

Core or compulsory module(s)

- Advanced Chemical Research Project

Optional modules

- You will select 4 modules from a wide range of advanced chemistry options and other approved undergraduate options. Chemistry options may include:
  - Frontiers in Experimental Physical Chemistry
  - Intense Radiation Sources for Chemistry
  - Advanced Topics in Energy Science and Materials
  - Numerical and Analytical Methods
  - Stereochemical Control in Asymmetric Total Synthesis
  - Structural Methods in Modern Chemistry
  - Synthesis and Biosynthesis of Natural Products
  - Topics in Quantum Mechanics

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.

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

Contextual Offer: AAB. A in Chemistry plus A in one of Biology (preferred), Mathematics or Physics. Preference for third subject to also be one of these subjects.

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 6 in one of Biology (preferred), Mathematics or Physics, with no score lower than 5.

Contextual Offer: 36 points. A score of 17 points in three higher level subjects including 6 in Chemistry and 6 in one of Biology (preferred), Mathematics or Physics, with no score lower than 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 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: £28,610 (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.

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

Dr Dejan-Kresimir Bucar
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Department: Chemistry

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