BIOPROCESSING OF NEW MEDICINES (SCIENCE AND ENGINEERING) BSc / UCAS CODE: B190 2020 ENTRY

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Bioprocessing of New Medicines (Science and Engineering) BSc /

There is a growing need for graduates with a grounding in biological sciences who are able to understand the translational new technologies required for new medicine commercialisation. This BSc focuses on the early stage development of new medicines, such as stem cell, new vaccines and potential new therapies related to healthcare.

Key information

Programme starts
September 2020

Location
London, Bloomsbury

Degree benefits

// This flexible programme enables you to choose different options from an approved list, thereby tailoring your degree towards the engineering, biological or business aspects of new medicine development.

// The department has amongst the most modern and comprehensive biochemical engineering facilities of any university in the world. Valued at over £35 million, they attract leading industrial collaborators.

// Our teaching is designed to help you work at a detailed analytical level, and also to see the bigger picture in terms of addressing environmental and ethical issues.

// We have been pioneers in providing our undergraduates with training to help them understand the business environment in which life science industries operate. This prepares you better for your future career.

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).

In the first year, you will study the fundamentals of biochemistry and cell biology, which are required to understand the technologies used in early stages of new medicine development. Case studies will look at the challenges of creating new medicines, disease states and the ethical considerations of working in the biopharmaceutical industry.

The second year examines the intricate signalling structures within the human body, and looks at the immune memory that new vaccines seek to stimulate. In addition, you will be required to consider the commercialisation of new medicines and will develop your knowledge of intellectual property and how to manage it in a global market.

The research project is a core component of the third year, along with modules in business planning and the bioprocessing of new medicines. At least one optional module is offered every year of your programme, enabling you to tailor your degree towards the business side of the new medicines industry or the biomolecular side.

YEAR ONE

Core or compulsory module(s)
- Biochemistry and Molecular Biology
- Bioprocess Analysis
- Chemistry for Biologists
- Fluid Flow and Mixing in Bioprocesses
- Introduction to Biochemical Engineering
- Introductory Statistical Methods and Computing

Optional modules
- You will select 15 credits from a range of options.

YEAR TWO

Core or compulsory module(s)
- Cell Production and Growth
- Bioprocessing Recovery and Puriﬁcation
- Commercialisation of Research Ideas
- Essential Molecular Biology
- Manufacturing Regenerative Medicines: from lab bench to industry

Optional modules
- You will select 30 credits from a range of options.

FINAL YEAR

Core or compulsory module(s)
- Advanced Materials, Devices and Manufacturing Processes for Regenerative Medicine
- Bioprocess Research Project
- Business Planning in Bioprocessing and Life Sciences
- Design and Manufacture of Regenerative Medicine Drug Products
- Vaccine Bioprocessing

Optional modules
- You will select 30 credits from a range of options.
Your learning
You will be taught through a combination of lectures, case studies, team-based projects and experiments. Leading industrialists and researchers regularly visit the department to provide guest lectures. Case studies are conducted in small teams, and your personal and departmental tutors are available to offer individual support.

Assessment
Written examinations, individual reports, coursework and oral presentations all contribute towards your assessment.

Your career
The core science, engineering, business and leadership skills that you acquire on the programme will provide you with excellent and diverse career prospects. In addition to your core subject knowledge, the programme will provide you with skills such as innovative thinking, team-working and computing.

The excitement of advances towards new medicines and greener sustainable processes is creating an ever-growing need for biochemical engineering graduates in the biotechnology, pharmaceutical, biofuels, chemical, environment and food industries.

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.

In addition to academic requirements, we will also use your application to assess your motivation for studying bioprocessing. We will be seeking applicants committed to studying at the highest level, who are eager and able to rise to the challenges presented both by the programme and by a career in the discipline.

If we have made you an offer, you will be invited to an offer-holder's open day. This provides an excellent opportunity for you to visit the departmental facilities and meet current students and staff before making a final decision.
Entry requirements

**A LEVELS**

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

**Contextual Offer:** ABB. Grades AB in any order in Biology and Chemistry required.

**GCSE**

English Language and Mathematics at grade C or 5. 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](http://www.ucl.ac.uk/ug-reqs)

**IB DIPLOMA**

**Standard Offer:** 38 points. A total of 18 points in three higher level subjects including Biology and Chemistry, with no score below 5. Grade 6 must be offered in one of the required subjects.

**Contextual Offer:** 34 points. A total of 16 points in three higher level subjects including Biology and Chemistry, with no score below 5. Grade 6 must be offered in one of the required subjects.

**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](http://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](http://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](http://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](http://www.ucl.ac.uk/students).

**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**

Several major international companies have established a trust fund with the department. This fund provides five bursaries, each worth at least £1,500, which are open to all applicants of this programme.

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](http://www.ucl.ac.uk/fees) 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](http://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](http://www.ucl.ac.uk/prospectus).