The Biotechnology BSc provides a broad-focused grounding in chemistry, biochemistry, molecular biotechnology and biochemical engineering alongside experience of the experiment skills essential for future research. The programme is designed to equip graduates for a career in this new and exciting discipline, which has developed out of some of the most dramatic scientific discoveries of the last 30 years.

Key information

Programme starts
September 2019

Location
London, Bloomsbury

Degree benefits

// This degree programme is one of only a few in which biochemical engineering is a significant component of study in each of the three years.

// UCL is one of the world’s largest academic centres for research in biotechnology, with three major research units based here: the Institute of Structural and Molecular Biology, the Laboratory for Molecular Cell Biology and the interdisciplinary Advanced Centre for Biochemical Engineering.

// You will have the opportunity to take a one-year placement in industry (working in a suitable industrial or research laboratory) before your final year of study.

// Our excellent resources include the Darwin Research Facility, which provides state of the art centrifugation, cell culture, imaging and biomolecular structural analysis facilities and a drug discovery facility.

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 of the programme you will take compulsory core modules similar to those taken in the first year of other biosciences programmes, but with additional core biochemical engineering content. After year one you may transfer to a Molecular Biology BSc or Biochemistry BSc if you wish.

In year two, you will take a number of compulsory modules including specialities in bioprocess and engineering, but with some optional module flexibility which increases in year three.

You will also take certain compulsory modules from UCL’s Department of Biochemical Engineering.

You may elect to spend an additional year, after year two, gaining invaluable experience in an industrial or research laboratory. Your project report will count towards your degree. Or, after year two, you may elect to transfer to the research-intensive MSci degree stream.

The final year of your degree will focus principally on different styles of research project. There will be an engineering design project and a second group research project that encompasses next generation sequence and data analysis. An extensive review of the relevant literature will also be required.

YEAR ONE

Core or compulsory module(s)

// Biochemistry and Molecular Biology
   Chemistry for Biologists
   Introduction to Biochemical Engineering
   Introduction to Bioengineering Processes and Design
   Introduction to Microbiology
   The Principles and Practice of Experimental Biochemistry

Optional modules

// All first year modules are compulsory.

YEAR TWO

Core or compulsory module(s)

// Cell Biology
   Biomolecular Structure and Function
   Downstream Processing
   Evaluation and Planning of Business Opportunities in Bioprocessing and Life Sciences
   Cell Production Growth
   Molecular Biology

Optional modules

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

FINAL YEAR

Core or compulsory module(s)

// Advanced Practical in Molecular Biology I
   Biochemistry Research Project (Investigative)
   Bioprocess Design Study

Optional modules

// You will select 1.5 credits from a wide range of final-year options.
Your learning

Biotechnology is a practical science and you can expect to spend a significant portion of your time either in wet laboratories, where you will handle chemicals and biological materials, or in dry laboratories, where computer simulations and exercises are carried out.

You will also take part in seminars, presentations, lectures and group tutorials. You will use an online learning site (Moodle) to support your studies.

Assessment

Your assessment will include a combination of examinations, coursework, practical work, tutorial work and presentations. Many modules have in-course tests (web-based or written) and most (but not all) modules have an unseen final examination.

Your career

You will acquire a range of specific and transferable key skills, including time management and planning, technical laboratory competencies such as manual dexterity and analysis of data, and skills in teamwork, negotiation and decision-making.

This BSc provides access to a wide variety of careers. Trained biotechnologists are required in large numbers for the manufacture of biological products such as pharmaceuticals and speciality chemicals. In addition, food and beverage manufacturers are increasingly embracing biotechnology.

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

- Business Development Manager, Sangie Pharmaceuticals Private Limited
- Full-time student, MSc in Nanotechnology and Regenerative Medicine at UCL
- Research Assistant, BioValence
- Full-time student, MRes in Computational Biology at Imperial College London
- Full-time student, MSc in Synthetic Biology at ETH Zurich

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.

We will use your predicted or achieved academic qualifications, your personal statement and reference to decide whether to offer you a place. Evidence of sustained interest in science, such as involvement in a science debating society, and of activities that demonstrate your self-motivation and organisational skills, will be considered favourably.

If you live in the UK, and we have made you an offer, you will be invited to attend an offer holder open day. This will involve talks from staff about the programme and the department, a research presentation, a tour of UCL and the department and a visit to a laboratory facility.
Entry requirements

A LEVELS
Standard Offer: AAA. Biology, Chemistry and Mathematics required.
Contextual Offer: ABB. Biology, Chemistry and Mathematics required with grade A in Chemistry.

GCSE
English Language and 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 total of 18 points in three higher level subjects to include Biology, Chemistry, and Mathematics, with no score below 5.
Contextual Offer: 34. A total of 16 points in three higher level subjects including Chemistry, Biology and Mathematics with a score of 6 in Chemistry and no score below 5.

CONTEXTUAL OFFERS – ACCESS UCL SCHEME
As part of their 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: £24,760 (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
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 Chris Taylorson
Email:
Telephone:
Department: Division of Biosciences

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