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 2018

**Location**
London, Bloomsbury

**Degree benefits**

- This degree programme is one of few which provide biochemical engineering as 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.

**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.

- 82% 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).

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

The final year of your degree will focus principally on an individual research project and a bioprocess design study.

**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 specialty 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 Executive, Faber Group Berhad
- Project Co-Ordinator, Phoenix QC
- MSc in Advanced Chemical Engineering with Biotechnology, Imperial College London
- PhD in Synthetic Biology, National University of Singapore
- MSc in Synthetic Biology, 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**
**Grades**
AAA

**Subjects**
Chemistry required plus one from Biology, Mathematics or Physics.

**GCSE**
English Language and Mathematics at grade B. For UK-based students, a grade C 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**
**Points**
38 overall.

**Subjects**
A total of 18 points in three higher level subjects including Chemistry at grade 6, and one subject from Biology, Mathematics or Physics, with no score below 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](http://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](http://www.ucl.ac.uk/upc).

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**TUITION FEES**
The fees indicated are for undergraduate entry in the 2017/18 academic year and are for the first year of the programme at UCL only. Fees for 2018 entry will appear here as soon as they are available.

- **UK & EU:** £9,250 (2017/18 - see below)
- **Overseas:** £21,960 (2017/18)

The UK/EU fee quoted above may be subject to increase for the 2018/19 academic year and for each year of study thereafter and UCL reserves the right to increase its fees in line with UK government policy (including on an annual basis for each year of study during a programme). Fees for overseas students may be subject to an annual increase in subsequent years of study by up to 5%.

Please see the full details of UCL’s fees and possible changes on the UCL Current Students website.

**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**
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**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/eu-referendum](http://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](http://www.ucl.ac.uk/prospectus)