ENGINEERING (BIOCHEMICAL)
BEng / UCAS CODE: H811
2018 ENTRY

www.ucl.ac.uk/prospectus/biochemeng
The Biochemical Engineering undergraduate programme at UCL fully integrates engineering and biotechnology. Both BEng and MEng routes share a common curriculum of core modules, delivered through innovative teaching and practical courses. Both programmes will equip you with skills to follow a wide range of careers in this emerging sector.

Key information

Programme starts
September 2018

Location
London, Bloomsbury

Degree benefits

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

// Our staff are at the forefront of research in areas such as regenerative medicine, biopharmaceuticals and biofuels. We are committed to research-based teaching through UCL’s Connected Curriculum, meaning students will be exposed to the newest developments in these fields.

// The programme is professionally accredited by the Institution of Chartered Engineers (IChemE), which means that it provides the essential entry point to Chartered Engineering Status (CEng).

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

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.

// 90% 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.

Accreditation
This programme is accredited by the Institution of Chemical Engineers (IChemE) as satisfying the academic requirement for registration as a Chartered Chemical Engineer when supplemented with further learning to Master’s level.

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).

The Engineering (Biochemical) BEng and MEng share a common curriculum of core modules. These are designed to introduce you to biochemical engineering through lectures and use of practical training facilities. Scenario-based learning activities will give you hands-on experience in a diverse range of fields, from tackling biopharmaceutical process development to evaluating sustainability of biofuels.

In all years you will supplement compulsory modules by selecting options to match your interests. You may choose to complete your degree at this stage with a BEng qualification. However, we advise you to apply for a four-year MEng programme initially as this gives you the most control over your plans.

This degree is part of the Integrated Engineering Programme (IEP), a teaching framework that engages students in specialist and interdisciplinary engineering activities designed to create well-rounded graduates with a strong grasp of the fundamentals of their discipline and a broad understanding of the complexity and context of engineering problems.

Students register for a core discipline, but also engage in activities that span departments so the development of fundamental technical knowledge takes place alongside specialist and interdisciplinary research-based projects and professional skills. This creates degrees that encourage professional development, with an emphasis on design and challenging students to apply knowledge to complex problems.

YEAR ONE

Compulsory subjects

// 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

// One Minor module from the IEP options that are available.

YEAR TWO

Core or compulsory module(s)

// Biochemistry of Protein Production
// Bioprocess Recovery and Purification
// Design and Professional Skills II
// Fermentation and Bioreactor Engineering
// Heat and Mass Transfer
// Mathematical Analysis and Modeling II

Optional modules

// You will select one optional module from a range to the value of 1.0 credit.
Data taken from the 'Destinations of Leavers from Higher Education' survey undertaken by HESA looking at the destinations of UK and EU students in the 2013-2015 graduating cohorts six months after graduation.

In addition to academic requirements, we will use your application to assess your motivation for studying biochemical engineering. We are 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 are considering making you an offer, and you live in the UK, you will be invited to an applicant open day. Your visit provides an excellent opportunity to examine the departmental facilities before making a final decision.

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. Our programmes offer regular opportunities for students to put their learning into practice through the use of scenarios. Case studies are conducted in small teams, with your tutors offering individual support.

Assessment

Written examinations, individual and group 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 in innovative thinking, team-working and computing.

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

First career destinations of recent Biochemical Engineering BEng graduates (2013-2015) include:

// Analyst, BlackRock
// Full-time student, EngD in Biochemical Engineering and Bioprocess Leadership at UCL
// Full-time student, MSc in Management at Imperial College Business School, Imperial College London
// Pharmaceutical Industry Analyst, Visiongain
// Full-time student, MSc in Environmental Engineering at Griffith University

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.
**Entry requirements**

**A LEVELS**

**Grades**  
A*AA-AAA

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

**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

**IB DIPLOMA**

**Points**  
36-39 overall.

**Subjects**  
A total of 18-19 points in three higher level subjects including Mathematics, plus one from Biology, Chemistry 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

**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**

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.

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

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