ENGINEERING (CHEMICAL)
MEng / UCAS CODE: H801
2019 ENTRY
www.ucl.ac.uk/prospectus
This four-year programme builds upon the knowledge and experience offered by the Engineering (Chemical) BEng programme with the addition of a final-year research project and advanced modules, and is a direct route to IChemE membership and Chartered (CEng) status.

### Key information

**Programme starts**  
September 2019

**Location**  
London, Bloomsbury

### Degree benefits

- UCL's Department of Chemical Engineering is one of the best in the country. You will be taught by lecturers recognised as international leaders in their field.
- The department offers an impressive national and international network of industrial contacts and has strong collaborative links with other university departments in the UK and abroad.
- The MEng programmes are professionally accredited by the Institution of Chemical Engineers (IChemE), and offers a direct route to Chartered Engineer (CEng) status.
- The degree is part of an integrated programme across engineering providing opportunities to broaden your horizons through interactions with other disciplines. There is also the flexibility to choose the fine details of your individual degree options gradually as you progress through the programme.

### Accreditation

This degree is fully accredited by the Institution of Chemical Engineers (IChemE).

### 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).

The two Chemical Engineering programmes at UCL, BEng and MEng, follow a common curriculum for the first two years and a final decision between the different routes can be delayed until the end of the second year when you will have greater experience on which to base your choice. Applicants do not need to apply for more than one programme; all applicants to all programmes are treated equally. Suitably qualified BEng candidates can change to MEng at the end of year two. Students on the MEng programme have the option to spend their final year following the Chemical Engineering route, the Chemical with Biochemical Engineering route, or the Study Abroad route.

In year three you will undertake a compulsory design project, carried out in small teams. Each team designs a complete process plant, including detailed unit design (of, for example, a reactor or a distillation or absorption column), environmental impact, safety and risk assessment, process control and costing.

Your final year may include a research project, compulsory advanced modules, and other options, depending on your chosen route.

We are committed to, and encourage you to take, a formal industrial training (sandwich) year during your degree programme. This is usually during the year before your final study year, and provides invaluable experience.

This degree is part of the Integrated Engineering Programme (IEP), a teaching framework that engages students in specialist and interdisciplinary 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 encouraging professional development, with an emphasis on design and challenging students to apply knowledge to complex problems.

### YEAR ONE

**Compulsory subjects**

- Introduction to Chemical Engineering
- Mathematical Modelling & Analysis I
- Engineering Challenges
- Computational Modelling & Analysis
- Physical Chemistry
- Thermodynamics
- Transport Phenomena

**Optional modules**

- All first-year modules are compulsory.
opportunities for students to put their learning into practice.

leading-edge computer software. Our programmes offer regular training, and through our innovative and award-winning scenario-based learning. For problem-solving and design classes you will be using computer workshops supplemented by coursework and laboratory.

Optional modules

- Minor I
- Minor II

"Students will choose a minor stream in years two and three that allows them to gain a grounding in another engineering, or relevant discipline or an interdisciplinary topic, by offering a coherent set of three 0.5 course-unit modules allowing an introduction to a field, as well as an opportunity to cover an interdisciplinary topic to reasonable depth. Students intending to study abroad in a non-English speaking country will need to choose relevant language modules.

YEAR THREE

Core or compulsory module(s)

- Chemical Reaction Engineering I
- Design & Professional Skills II
- Engineering Experimentation
- Mathematical Modelling & Analysis II
- Particulate Systems and Separation Processes II
- Process Design Principles
- Process Heat Transfer
- Separation Processes I

Optional modules

- Minor I
- Minor II

"Students will choose a minor stream in years two and three that allows them to gain a grounding in another engineering, or relevant discipline or an interdisciplinary topic, by offering a coherent set of three 0.5 course-unit modules allowing an introduction to a field, as well as an opportunity to cover an interdisciplinary topic to reasonable depth. Students intending to study abroad in a non-English speaking country will need to choose relevant language modules.

FINAL YEAR

Core or compulsory module(s)

- Chemical Engineering route:
  - Chemical Engineering Research Project
  - Process Systems Modelling and Design
- Biochemical Engineering route:
  - Applied Molecular Biology
  - Bioprocess Validation and Quality Control
  - Cell Therapy Biology, Bioprocessing and Clinical Translation
  - Design and Control of Biochemical Reactors
  - Fundamental Biosciences
  - Integrated Biochemical Engineering Design
  - Integrated Downstream Processes
  - Sustainable Industrial Bioprocesses and Bioenergetics
- Study Abroad route:
  - You will spend your final year in a selected university in Europe (France, Germany, Spain, Italy), in the USA or in Australia. If you spend your final year in a non-English speaking country, you will need to have taken language modules earlier in the programme as a minor in years two and three, unless you are already proficient in the language.

Optional modules

- Chemical Engineering route:
  - You will select from a range of advanced optional modules in Chemical Engineering, other engineering disciplines, Chemistry, Management or Languages. A list is shown on the department website.
- Modules may include:
  - Advanced MaterialsProcesses and Nanotechnology
  - Advanced Process Engineering
  - Advanced Separation Processes
  - Nature Inspired Chemical Engineering
  - Energy Systems and Sustainability
  - Electrochemical Engineering and Power Sources
  - Fluid-particle Systems
  - Molecular Thermodynamics
- Bioprocess Validation and Quality Control
- Design and Control of Biochemical Reactors
- Fundamental Biosciences

- Study Abroad route: All final-year modules are compulsory.

Placement

Undergraduate students are encouraged to take an extramural year (EMY) in industry during their degree as it will significantly improve employment prospects on graduation. This option is taken in the penultimate year of study, between the third and fourth years.

Assessment

You will be assessed through a combination of coursework during term-time, usually contributing 20-50% of the module mark, and final examinations in the third term, except for a few modules which are assessed on the basis of project or coursework alone.

Your career

Our core programme is designed to develop transferable management, business, professional and personal skills, and the diverse curricula and training will equip you well for employment both in the process industry as well as other economic sectors such as management consulting, banking, finance and accountancy.

You will have employment opportunities in many sectors such as pharmaceuticals and biotechnology, oil and gas production, contract engineering and manufacturing. You will also be well prepared to consider further study at postgraduate or doctoral level at UCL or elsewhere.

First destinations of recent Chemical Engineering MEng graduates (2013-2015) at UCL include:

- Process Engineer, Procter & Gamble
- Graduate Safety Engineer, ConocoPhilips
- Full-time student, MSc in Economics and Policy of Energy and the Environment at UCL
- Chemical Engineer, BOC
- Project Engineer, BOC UK & Ireland

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 entry requirements, we are looking for evidence of your commitment to, and enthusiasm for, studying chemical engineering.

Wherever possible, applicants based in the UK are invited to visit the department. The visit provides an excellent opportunity to see the department and its facilities.

Your learning

You will be taught through a combination of lectures, interactive tutorials and computer workshops supplemented by coursework and laboratory training, and through our innovative and award-winning scenario-based learning. For problem-solving and design classes you will be using leading-edge computer software. Our programmes offer regular opportunities for students to put their learning into practice.
### Entry requirements

**A LEVELS**

**Standard Offer:** AAA. Mathematics and Chemistry required. Another science preferred as third subject, but not essential.

**Contextual Offer:** AAB. Mathematics and Chemistry required at grade A. Another science preferred as third subject, but not essential.

**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. A total of 18 points in three higher level subjects to include Mathematics and Chemistry, with no score lower than 5. Another science at higher level preferred, but not essential.

**Contextual Offer:** 36. A total of 17 points in three higher level subjects to include Mathematics and Chemistry at 6, with no score lower than 5. Another science at higher level preferred, but not essential.

**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).

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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. Fees for future years may be subject to an inflationary increase. 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.

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<thead>
<tr>
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<tr>
<td><strong>UK &amp; EU</strong></td>
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Overseas fees for the 2019/20 academic year are expected to be available in July 2018. Undergraduate UK/EU fees are capped by the UK Government and are expected to be available in October 2018. 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

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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/ucl-and-europe](http://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](http://www.ucl.ac.uk/prospectus)