ENGINEERING (CHEMICAL)
MEng / UCAS CODE: H801
2018 ENTRY

www.ucl.ac.uk/prospectus/chemeng
Engineering (Chemical) MEng /

This four-year programme builds upon the knowledge and experience offered by the Chemical Engineering 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 2018

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.

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 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 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 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. Suits 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
// Design & Professional Skills
// Integrated Engineering
// Computational Modelling & Analysis
// Physical Chemistry
// Thermodynamics
// Transport Phenomena

Optional modules
// All first-year modules are compulsory.
**YEAR TWO**

**Core or compulsory module(s)**
- Mathematical Modelling & Analysis II
- Design & Professional Skills II
- Engineering Experimentation
- Process Heat Transfer
- Separation Processes
- Chemical Reaction Engineering I
- Particulate Systems and Separation Processes II
- Process Design Principles

**Optional modules**
- Minor I*
- Minor II*
- Minor III*

*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)**
- Advanced Safety & Loss Prevention
- Chemical Engineering Plant Design
- Chemical Reaction Engineering II
- Process Dynamics and Control
- Transport Phenomena II

**Optional modules**
- Minor I*
- Minor II*
- Minor III*

*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 Biorefineries
- Study Abroad route:
  - You will spend your first 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 Process Engineering
  - Nature Inspired Chemical Engineering
  - Energy Systems and Sustainability
  - Electrochemical Engineering and Power Sources
  - Fluid-particle Systems
  - Molecular Thermodynamics
- Biochemical Engineering route:
  - All final-year modules are compulsory.
- Study Abroad route: All final-year modules are compulsory.

### 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.

### Placement

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

### 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 to be highly employable in the process industry as well as other economic sectors such as management consulting, banking, finance and accountancy.

You will have many employment opportunities in 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, Petronas MLNG
- Chemical Engineer, BOC
- Process Engineer, Procter & Gamble
- Process Engineer, Syngenta
- 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.
Entry requirements

**A LEVELS**

**Grades**
A*AA-AAA

**Subjects**
Mathematics and Chemistry required. Another science preferred as third subject, but not essential.

**GCSE**
English Language and Mathematics at grade C. 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

**IB DIPLOMA**

**Points**
38-39 overall.

**Subjects**
A total of 18-19 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.

**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**
(Intermediate 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.

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: £23,710 (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

Dr George Manos

Email: ug-chemeng@ucl.ac.uk

Telephone: +44 (0)20 7679 3810

Department: Chemical Engineering

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