Engineering (Mechanical) BEng

The BEng programme aims to equip you with the analytical and design skills relevant to a wide range of engineering employers. The teaching of computing and management skills is an important part of the programme.

Key information

Programme starts
September 2019

Location
London, Bloomsbury

Degree benefits

// Our top-quality laboratory and testing facilities include materials testing equipment, wind tunnels, two large wave tanks and an array of engine test cells.

// You will benefit from our internationally renowned research expertise as this cutting-edge knowledge is passed on to you through our teaching.

// The flexible programme structure enables you to transfer between the BEng and MEng degree programmes up to the end of the second year.

// We offer you a degree that is highly respected both within the UK and abroad.

Accreditation

The programmes are accredited by the Institution of Mechanical Engineers (IMechE) as meeting the academic base requirements, in part, for registration as a Chartered Engineer for the 2014-2021 student cohort intakes.

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 BEng programme is similar to the MEng programme for the first two years and you can transfer between them up to the end of the second year if you satisfy certain performance criteria. The BEng is suitable for students who might wish to undertake graduate studies in the future (e.g. an MSc or PhD) or who do not necessarily seek Chartered Engineer status after they graduate. Applying for a MEng initially helps keep your options open.

You will undertake an individual project as a major component of the third year.

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 encouraging professional development, with an emphasis on design and challenging students to apply knowledge to complex problems.

Students may opt to take a year working in industry between the second and third years of the programme. This posting needs UCL approval in advance, and students are required to write a comprehensive report on their work and what they have learnt during the year.

YEAR ONE

Core or compulsory module(s)

// Design and Professional Skills
// Engineering Dynamics
// Engineering Challenges
// Fundamentals of Materials
// Introduction to Mechanical Engineering
// Introduction to Thermodynamics and Fluid Mechanics
// Mathematical Modelling and Analysis I
// Mechanical Engineering Practical Skills

// All first year modules are compulsory.

YEAR TWO

Core or compulsory module(s)

// Control and Instrumentation
// Design and Professional Skills II (for Mechanical Engineers)
// Engineering Materials: Failure and Design
// Intermediate Thermodynamics and Fluid Mechanics
// Manufacturing and Design
// Mathematical Modelling and Analysis II
// Mechanics of Solids and Structures

Optional modules

// Students must take one module in their chosen minor subject from the Integrated Engineering Programme. See www.engineering.ucl.ac.uk/integrated-engineering/minors/ for the available subjects.
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.

**FINAL YEAR**

Core or compulsory module(s)

- Advanced Thermodynamics and Fluid Mechanics
- Dynamics and Control
- Elasticity and Plasticity
- Individual Project
- Project Management

Optional modules

- You will study two modules in the minor subject chosen in year two.

**Your learning**

You will be taught in a variety of ways, including lectures, tutorials, laboratory classes, computer workshops and project work. Along with our computing facilities we have extensive equipment and apparatus, housed in our main laboratories, which are used for taught laboratory classes and for your project work.

**Assessment**

Most subjects are examined through a combination of end-of-year examinations and coursework, but some are solely examined through coursework, for example, computing, design and projects. To transfer into an MEng programme you are required to maintain a standard equivalent to (at least) lower second-class Honours level throughout your studies.

**Your career**

You will develop the fundamental analytical and design skills necessary to become a professional mechanical engineer in your chosen field of employment, whether in industry or in a consulting/research organisation.

Your career options can be in a variety of fields including aerospace, railways, motor vehicle design, manufacturing and medical engineering. The programme also equips you with the necessary skills to work in commerce, banking, and management consultancy.

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

- Engineering Lecturer, Nanyang Polytechnic
- Engineering & Manufacturing Graduate, Rolls Royce Motors
- DPhil in Material Science, University of Oxford
- MSc Advanced Aeronautical Engineering, Imperial College London
- MSc Nanotechnology, UCL

**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 our essential academic requirements, we will expect your application to explain how you became interested in the subject, and what steps you have taken to discover more about studies and careers in engineering.

Successful UK-based applicants will be invited to an offer holder day where they can tour the department and meet with academic staff and students. Successful applicants not based in the UK will be able to access a virtual open day.
**Entry requirements**

**A LEVELS**

**Standard Offer:** A*AA. Mathematics and Physics required. A* must be in one of the required subjects. Further Mathematics, Economics or Design and Technology preferred as third subject, but not essential.

**Contextual Offer:** A*AB. A* from Mathematics and Physics required. Further Mathematics, Economics or Design and Technology 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:** 39. A score of 19 points in three higher level subjects including Mathematics and Physics, with no score lower than 5. Higher Level 7 required in Mathematics or Physics. Economics preferred as third higher level subject, but not essential.

**Contextual Offer:** 38. A score of 18 points in three higher level subjects including Mathematics and Physics, with no score lower than 5. Higher Level 7 required in Mathematics or Physics. Economics preferred as third higher level subject, 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.

- **UK & EU:** £9,250 (2018/19)
- **Overseas:** £25,960 (2018/19)

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).