MEDICAL SCIENCES AND ENGINEERING MSci / UCAS CODE: HA11
2019 ENTRY

www.ucl.ac.uk/prospectus
This specialist degree programme will give you the knowledge of biology and disease, and the engineering and problem solving skills to contribute to areas such as designing artificial and regenerative tissues, robotic surgeries and improved prosthetics. MSci students will be able to carry out an additional research project, and also have the flexibility of selecting a theme for their optional modules in year four.

**Key information**

**Programme starts**
September 2019

**Location**
London, Bloomsbury

**Degree benefits**

// You will have the benefit of teaching underpinned by world-leading research activity in medical devices from across UCL.

// You will engage with scientists, clinicians and engineers across UCL’s Bloomsbury, Royal Free and Stanmore campuses. This close interaction with national hospitals means that education is driven by medical challenges.

// You will develop your entrepreneurial skills and learn how research can be translated into clinical practice. You will also learn about commercialisation within the medical technology industry.

**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).

This degree is split equally between engineering and medical science and is composed of eight compulsory modules in year one and eight in year two.

In year three, students will have the opportunity to personalise their programme as there will be optional modules available. In the final year all modules are optional.

Optional modules will be chosen from a range available throughout UCL and students will be encouraged to design their degree along a theme including engineering and medical sciences.

MSci students will be able to carry out a research project in medical sciences and/or engineering their third year, as well as a larger research project in their final year.

**YEAR ONE**

**Core or compulsory module(s)**

- Introduction to Engineering Medicine
- Cardiovascular and Respiratory Function in Health and Disease
- Medical Instrumentation
- Mathematics and Modelling
- The Gut, Liver and Drug Metabolism
- Kidneys, Hormonal Control of Human Physiology, Fluid Balance and Nutrition
- Materials and Mechanics
- Professional Engineering Practice

**Optional modules**

- All first year modules are compulsory.

**YEAR TWO**

**Core or compulsory module(s)**

- The Functional Nervous System and Brain
- Medical Instrumentation II
- Mathematical Modelling and Analysis
- Musculoskeletal Biology
- Manufacturing Regenerative Medicines
- Fundamentals of Biomechanics
- Infection, Inflammation and Repair
- Professional Medical Practice

**Optional modules**

- All second year modules are compulsory.

**YEAR THREE**

**Core or compulsory module(s)**

- Professional Clinical Practice
- Research Project

**Optional modules**

- A variety of optional modules will be available, allowing students to personalise their degree along a theme including engineering or medical sciences.
Your learning

Taught modules will be supported by specially-tailored, lab-based group tutorials. Working in small teams, students will apply their knowledge within a supported environment, supervised by academics. Formal learning will include practical classes, case-based discussions, workshops and research projects (group and individual).

Assessment

A range of methods of assessment will be used across the programme, including: written coursework, project reports, and unseen examinations (designed to test knowledge and understanding of both medical sciences and engineering).

Your career

Graduates will be equipped to deliver world-class biomedical engineering and regenerative medicine solutions in clinical, commercial, regulatory and research environments. They will have the skills to move into the expanding global medical technologies and regenerative medicine sectors as product specialists, researchers, designers and regulatory advisors. Graduates may also enter NHS Clinical Scientist and Clinical Engineer training programmes.

Recent government and industry reports have identified skills shortages in the healthcare and pharmaceutical sectors. These shortages need to be met by multidisciplinary graduates who can think broadly to create new solutions to global challenges.

The first cohort of students admitted to the Medical Sciences and Engineering BSc is due to graduate in 2020. Therefore, information about career destinations for students on this programme is not yet available.

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 be looking for evidence of your motivation, commitment and enthusiasm to pursue this degree. This could be demonstrated through relevant work or other experiences (e.g. attendance at a scientific exhibition). This programme will suit students who want to make a difference in the world, who are innovative and inventive, and who are prepared to be challenged. Due to the programme content, we require applicants have an A level in Biology and Mathematics, plus one additional STEM subject (e.g. Chemistry, Physics, Further Mathematics).

We will use your predicted or achieved academic qualifications, your personal statement and your reference to decide whether to offer you a place.
**Entry requirements**

**A LEVELS**

**Standard Offer:** AAB. Mathematics, Biology at grade AA and either Physics or Chemistry at grade B required.

**Contextual Offer:** Contextual offer not available..

**GCSE**

English Language and Mathematics at grade B or 6. 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**

**Standard Offer:** 36. A total of 17 points in three higher level subjects, including a score of 6 in both Mathematics and Biology and either Physics or Chemistry with a minimum score of 5.

**Contextual Offer:** Contextual offer not available..

**CONTEXUAL 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.

**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)**

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.

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**TUITION FEES**

The fees indicated are for undergraduate entry in the 2019/20 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 2019/20 entrants for each year of study on the programme, unless otherwise indicated below.

- **UK & EU:** £9,250 (2019/20)
- **Overseas:** £24,760 (2019/20)

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

**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.