The global challenges of climate and energy require new technologies for renewable energy sources, methods of energy storage, efficient energy use, new lightweight vehicular structures, techniques for carbon capture and storage and climate engineering. This is a broad-based MSc, designed for graduates who wish to acquire skills in energy and materials science in order to participate in the emerging challenges to meet climate change targets.

Degree summary

Students gain an advanced knowledge of materials science as it applies to energy and environmental technologies and research skills including information and literature retrieval, critical interpretation and analysis, and effective communication. They can benefit from modules in chemistry, physics, chemical engineering or mechanical engineering, thus offering future employers a wide-ranging skills base. Graduates will be well qualified to deal with the problems of energy decision-making and the implications for the environment.

This programme is designed for graduates from a wide range of science and engineering backgrounds who wish to broaden their knowledge and skills into materials science with an emphasis on the energy and climate change issues that will drive markets over the next century. It delivers courses from five departments across three faculties depending on options and includes a self-managed research project which is intended to introduce the challenges of original scientific research in a supportive environment.

Research activities span the whole spectrum of energy-related research from the development of batteries and fuel cells to the prediction of the structure of new water-splitting catalytic materials.

Students develop experience in scientific method, techniques for reporting science and in the many generic skills required for a future career.

The programme is delivered through a combination of lectures, seminars, self-study and research supervision. Assessment is through unseen written examination and coursework. The literature project is assessed by written dissertation and the research project is assessed by a written report and a viva voce examination.

Degree structure

Mode: Full-time: 1 year
Location: London, Bloomsbury

Students undertake modules to the value of 180 credits. The programme consists of five core modules (90 credits), two optional modules (15 credits each) and a research project (60 credits).

An exit-level only Postgraduate Diploma (120 credits) is available. An exit-level only Postgraduate Certificate (60 credits) is available.

CORE MODULES
- Advanced Topics in Energy Science and Materials
- Microstructural Control in Materials Science
- Energy Systems and Sustainability
- Researcher Professional Development
- Research Project Literature Review (30 credits)

OPTIONAL MODULES
- Climate and Energy
- Materials and Nanomaterials
- New and Renewable Energy Systems
- Mastering Entrepreneurship
- Energy, Technology and Climate Policy

DISSERTATION/REPORT
- All MSc students undertake an independent research project which culminates in a dissertation of approximately 7,000-10,000 words, an oral presentation and a viva voce examination (60 credits).
The UK has committed to 80% reduction in CO2 emissions on a 1990 baseline by 2050. CERES, the organisation that represents the largest institutional investors would like to see 90% reduction by 2050. National Systems of Innovation (NSI), which includes the universities, research centres and government departments working in conjunction with industry, will need to apprehend new opportunities and change direction, diverting personnel to energy and climate issues in response to changing markets and legislation. This MSc will contribute to the supply of personnel needed for the era of sustainability.

Recent career destinations* include:

- Engineer in Development, ProElectric
- Researcher, Chemistry Institute
- Cell Technician, Nexeon
- PhD in Nanomaterials, University of Oxford
- PhD in Chemical Engineering, Imperial College London

* Careers data is 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.
Entry requirements

A minimum of a second-class Bachelor's degree in a relevant discipline from a UK university or an overseas qualification of an equivalent standard.

English language proficiency level

If your education has not been conducted in the English language, you will be expected to demonstrate evidence of an adequate level of English proficiency.

The level of English language proficiency for this programme is: Standard.

Information about the evidence required, acceptable qualifications and test providers is provided at: www.ucl.ac.uk/graduate/english-requirements

Your application

Students are advised to apply as early as possible due to competition for places. Those applying for scholarship funding (particularly overseas applicants) should take note of application deadlines.

When we assess your application we would like to learn:

// Why you want to study Materials for Energy and Environment at graduate level. Please elaborate on the motivational factors that have drawn you to our subject. Our experience is that applicants from many different first degree backgrounds participate in the programme and you should explain how your own background leads you to this MSc.

// Why you want to study Materials for Energy and Environment at UCL. Tell us how UCL can help to improve your career path and give an indication of your willingness to participate in the wider UCL activities in energy and environment during your time here.

// How your academic background meets the demands of a challenging programme. The MSc is a broadening degree which will lead you into areas that lie outside your first degree subject. How comfortable are you about that? We find that some students have a clearly defined academic identity which inhibits them from applying their skills to subjects outside their boundary. How will you respond to this? How adventurous are you?

// What would you like to be able to do following your Master's?

Together with essential academic requirements, the personal statement is your opportunity to illustrate whether your reasons for applying to this programme match what the programme will deliver.

Application fee: There is an application processing fee for this programme of £75 for online applications and £100 for paper applications. More details about the application fee can be found at www.ucl.ac.uk/prospective-students/graduate/taught/application.

FEES AND FUNDING 2018/19 ENTRY

// UK: £9,850 (FT), £N/A (PT)
// EU: £9,850 (FT), £N/A (PT)
// Overseas: £27,580 (FT), £N/A (PT)

The tuition fees shown are for the year indicated above. Fees for subsequent years may increase or otherwise vary. Further information on fee status, fee increases and the fee schedule can be viewed on the UCL Current Students website.

Students can be self-funded or find sponsorship from alternative sources, for instance via those shown on the UCL scholarships and funding pages.

Full details of funding opportunities can be found on the UCL Scholarships website: www.ucl.ac.uk/scholarships

APPLICATION DEADLINE

All applicants: 27 July 2018

Details on how to apply are available on the website at: www.ucl.ac.uk/graduate/apply

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

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 Graduate Prospectus at www.ucl.ac.uk/graduate