The global challenge of environmental sustainability highlights the need for holistic design and management of complex environmental and technological systems. This interdisciplinary Master’s programme presents environmental issues and technologies within a systems engineering context. Graduates will understand interactions between the natural environment, people, processes and technologies to develop sustainable solutions.

Degree summary

Students will develop an understanding of systems engineering and environmental engineering. Environmental engineering is a multidisciplinary branch of engineering concerned with devising, implementing and managing solutions to protect and restore the environment within an overall framework of sustainable development. Systems engineering is the branch of engineering concerned with the development and management of large complex systems.

// The discipline of environmental systems engineering is growing rapidly with an international demand for multi-skilled professionals who can take an integrated approach to solving complex environmental problems (e.g. urban water systems, technologies to minimise industrial pollution). Environmental engineers work closely with a range of other environmental professionals, and the community.

// Skills may be used to: design, construct and operate urban water systems develop and implement cleaner production technologies to minimise industrial pollution recycle waste materials into new products and generate energy evaluate and minimise the environmental impact of engineering projects develop and implement sound environmental management strategies and procedures.

// UCL Civil, Environmental & Geomatic Engineering is an energetic and exciting environment in which to explore environmental systems engineering. Students have the advantages of studying in a multi-faculty institution with a long tradition of excellence in teaching and research, situated at the heart of one of the world’s greatest cities.

The programme is delivered through lectures, seminars, tutorials, laboratory classes and projects. The individual and group projects in the synthesis element involve interaction with industrial partners, giving students real-life experience and contacts for the future. Assessment is through written examination, coursework, presentations, and group and individual projects.

Accreditation

The programme is accredited by the Joint Board of Moderators, which is made up of the Institution of Civil Engineers, The Institution of Structural Engineers, the Chartered Institutions of Highways and Transportation, and the Institute of Highway Engineers.

Degree structure

Mode: Full-time: 1 year; Flexible: up to 5 years
Location: London, Bloomsbury

Students undertake modules to the value of 180 credits. The programme consists of four core modules (60 credits), a collaborative environmental systems project (30 credits), two optional modules (30 credits) and an individual environmental systems dissertation (60 credits).

A Postgraduate Diploma (120 credits) is offered.

CORE MODULES

// Collaborative Environmental Systems Project
// Environmental Systems
// Systems Engineering and Management
// Systems Society and Sustainability
// Environmental Modelling

OPTIONAL MODULES

// Options may include the following:
// Engineering and International Development
// Industrial Symbiosis
// Politics of Climate Change
// Project Management
// Water and Wastewater Treatment
// Urban Flooding and Drainage
// Offshore and Coastal Engineering
// Natural and Environmental Disasters
// Energy Systems Modelling
// Smart Energy Systems: Theory, Practice and Implementation
// Indoor Air Quality in Buildings
// Light, Lighting and Wellbeing in Buildings
// Building Acoustics
// Science, Technology and Engineering Advice in Practice

DISSERTATION/REPORT

// All MSc students undertake an independent research project addressing a problem of systems research, design or analysis, which culminates in a dissertation of 10,000 words.
Career paths for environmental systems engineers are diverse, expanding and challenging, with the pressures of increasing population, desire for improved standards of living and the need to protect the environmental systems. There are local UK and international opportunities in all areas of industry: in government planning and regulation, with regional and municipal authorities, consultants and contracting engineers, research and development organisations, and in education and technology transfer. Example of recent career destinations include Ford, KPMG, EDF Energy, Brookfield Multiplex, and the Thames Tideway Tunnel Project.

Recent career destinations* include:

- Air Quality Engineer, National Environment Agency
- Environmental Engineering Consultant, DOGO
- Nuclear Analyst, EDF Energy
- Graduate Flood Risk Engineer, Pell Frischmann
- Project Manager, Veolia Environmental Services

Employability

The discipline of environmental systems engineering is growing rapidly with international demand for multi-skilled, solutions-focussed professionals who can take an integrated approach to complex problems.

* 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 an upper second-class UK Bachelor's degree in a cognate subject or related discipline or an overseas qualification of an equivalent standard is usually required. Extensive work experience covering related areas will be considered.

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 Environmental Systems Engineering at graduate level
- why you want to study Environmental Systems Engineering at UCL
- what particularly attracts you to this programme
- how your personal, academic and professional background meets the demands of a challenging programme
- where you would like to go professionally with your degree

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.

Applicants are required to have a Good level of English. English language assessment methods and associated grades can be found at the following link: http://www.ucl.ac.uk/prospective-students/undergraduate/application/requirements/accepted-english-qualifications.

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: £12,380 (FT), EN/A (PT)
- EU: £12,380 (FT), EN/A (PT)
- Overseas: £25,880 (FT), EN/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.

Fees for flexible, modular study are charged pro-rata to the appropriate full-time Master's fee taken in an academic session.

Some funding schemes are available globally, but they are extremely competitive.

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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Telephone: +44 (0)20 3108 4046

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