

Environment and Climate Change MSc

COURSE DETAILS

- Full-time: 12 months

KEY DATES

- Apply by: [29 August 2025](#)
 - Starts: 22 September 2025
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Course overview

The global impacts of climate change are one of the biggest threats facing the world today. Develop your understanding of climate change and the processes which contribute to contemporary environmental problems and threaten to transform our environment.

INTRODUCTION

You will gain the skills and techniques to allow you to reconstruct recent environmental change, along with methods of contemporary monitoring and the context for predicted possible future consequences.

Through a mix of lectures, independent group study, coursework field work and laboratory work, you will develop your analytical research skills so you'll be able to to conduct first-class research in the field of environment and climate change.

Facilities that you will use during your master's have recently benefited from substantial investment, meaning you will have access to state-of-the-art facilities and equipment. Studying Environment and Climate Change at master's level will allow you to draw upon staff expertise from across the School of Environmental Sciences.

WHO IS THIS COURSE FOR?

This programme is perfect for graduates with a degree in an environmental subject (or relevant experience) who want to develop climate change research and influence sustainability policy at all levels.

WHAT YOU'LL LEARN

- An understanding of the principles of palaeoenvironmental reconstruction as a means of obtaining information about long-term environmental processes

- The methods of construction, applications of and strengths and weaknesses of global climate models as well as manipulating climatic time-series
 - An understanding of the Earth's atmospheric and oceanic systems at various temporal and spatial scales
 - The main drivers of environmental change during the Quaternary and the Holocene (the present interglacial period)
 - The impacts of long-term human activities on the terrestrial and marine environment
 - Training in the use of advanced laboratory techniques such as magnetic, bio-geochemical, sedimentological, environmental modelling techniques and microfossils
 - Independent thinking, critical insights, leadership, team work and a sound understanding of environmental issues (from global to local). Knowledge of regulations and policies at local government level.
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Course content

Discover what you'll learn, what you'll study, and how you'll be taught and assessed.

SEMESTER ONE

In semester one, you will undertake four modules that will introduce you to studying Environment and Climate Change at master's level. Including learning how to conduct in-depth research, how to present your findings, understanding quantitative research methods, how to navigate the political response to climate change, and techniques in soil and sediment sampling.

You'll get time in the laboratory to learn a number of techniques to support your time on the course, along with time out in the field developing your knowledge of environments such as lakes, peat-bogs, wetland, salt-marshes, and fluvial settings.

Please see below for semester one modules. Select the next tab to view semester two modules.

COMPULSORY MODULES

FIELD SKILLS IN ENVIRONMENTAL SCIENCE (ENVS425)

Credits: 15 / Semester: semester 1

The module is focused on training in field-based methods, centred around three pairs of days, either two field-days or a field-day and analysis day (laboratory or data analytics). Initially, a series of sessions will introduce the environmental context of the field locations, provide an overview of useful data sources and materials (e.g. Digimap) and provide training on how to frame research questions about our environment. The skills training will then comprise three pairs of days, providing training in the field skills and follow-on analysis to tackle an environmental challenge, including how such data is used to inform management and monitor and evaluate its effectiveness. Each of the three field sessions is assessed, where in small groups the students will develop and apply field skills to address an environmental question and/or management solution. These questions will vary from year to year, and examples include assessing the role of green spaces in mitigating urban pollution, testing how saltmarshes are resilient to sea level change, exploring lowland sedimentary records for evidence of past sea level and coastal change, and evaluating the success of nature-based solutions in regulating flooding (e.g. slow-the-flow initiatives). The module will be assessed via three short white paper reports for specific stakeholders (e.g. Woodland Trust, Environment Agency) focused on the three environments and research questions.

RESEARCH IN ANTHROPOCENE ENVIRONMENTS (ENVS485)

Credits: 15 / Semester: semester 1

Research in Anthropocene Environments provides an opportunity for students to be introduced to, and focus on, a wide range of potential topics at an early stage in their MSc studies, providing insight into how research spanning this broad theme is undertaken. The only condition for the topic that students select is that it addresses an aspect of an Anthropocene environment (defined here as one which is directly or indirectly human influenced). It is delivered by staff from across the School of Environmental Sciences whose research is intimately linked to the module title, also allowing students to gain a better insight into the wide range of topics that fall under this theme and what research is done in the school. Staff also talk briefly about their own paths into academia to highlight how research ideas and interests evolve. It is assessed by an abstract and a combined large poster/short oral presentation. The latter occurs during a day of presentations, which is designed to mimic an academic conference.

POLITICS OF THE ENVIRONMENT (ENVS525)

Credits: 15 / Semester: semester 1

Increasingly recognition of the environmental threats that we all face means that responding to this crisis affects the decisions we all make at a variety of different scales. This module explores the extent to which environmental concerns are taken into account in various decision-making processes involving the public (government), private and third sectors at a variety of different scales, global, European, national and local. The module is assessed by an essay and an open-book exam, which provides students with significant choice to explore those parts of the module they find most interesting.

QUANTITATIVE RESEARCH METHODS IN ENVIRONMENTAL SCIENCES (ENVS433)

Credits: 15 / Semester: semester 1

This module introduces the theory and practice of a number of advanced analytical methods used across environmental sciences. The module will have two focus areas: first, the physical properties of sediment archives in view of establishing records of environmental changes; second, modern ecological techniques and their application in carbon stocks. The module includes lectures, lab work and computer practicals and is assessed through two practical reports.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

SEMESTER TWO

In semester two, you'll get more chances to work in the field, in the lab, in the classroom, and with your peers as you learn about modes of operation, micropalaeontology, urban air pollution, and timescales of variation and drivers of the global climate system.

You'll also get the opportunity to work with us to develop the skills you will need to undertake your dissertation: project management, developing a research hypothesis, conducting a literature review, and more.

COMPULSORY MODULES

MONITORING URBAN AIR POLLUTION (ENVS666)

Credits: 15 / Semester: semester 2

Liverpool's air quality, much like many other UK's cities, is some of the worst in Europe. Whilst we might understand how it is produced, complex urban layouts and meteorological conditions make it almost impossible to understand how it mixes, disperses and stagnates in our cities; the only way in which we can monitor this is to sense our cities. This research-based module focuses on students using statistical tools to interpret data from University of Liverpool outdoor pollution sensors, Liverpool City Council outdoor sensors, and Government sensors, as well your own sensor that students construct as part of this module. The module content will be provided in the first three weeks after which students will work on research-based projects, with intensive supervision. The module's assessment gives students a taste of both the industry driven and academic world through a consultancy style group report and mimicking the process of presenting a paper at an academic conference.

INTRODUCTION TO QUATERNARY MICROPALAEONTOLOGY (ENVS542)

Credits: 15 / Semester: semester 2

This module intends to give a holistic insight of a number of marine and terrestrial microfossils that are conventionally used for reconstructing past environmental conditions for the Quaternary period, including recent past. Microfossils are biological indicators that can help to either qualitatively and/or quantitatively estimate environmental conditions such as atmospheric temperature and precipitation (pollen), sea-surface conditions (foraminifera, diatoms, radiolaria, dinoflagellate cysts), salinity (ostracods, diatom), pH (diatoms), sea-ice cover (diatoms, dinoflagellate cysts), etc. These conditions are of paramount importance for modelling past climate conditions and the data derived from microfossil assemblages enable to better calibrate models, which in turn, are essential to forecast future climate. In addition, microfossil assemblages help to understand the natural evolution of our environment as well as measuring the amplitude of human activities over time.

ANALYSING CLIMATE PROCESSES AND VARIABILITY (ENVS475)

Credits: 15 / Semester: semester 2

This module will introduce the students to a range of large climate data sets from the whole Earth-atmosphere-ocean climate system. These data sets will range from satellite data sets of ocean processes, satellite rain estimation to gridded climate data sets of the ocean and atmosphere, produced from observations, reanalysis and forecasts or projections and the introduction and use of paleorecords of climate change and variation. The module is delivered through a mix of lectures, practicals and seminars, and assessed through three practical reports.

PROJECT DESIGN AND MANAGEMENT (ENVS484)

Credits: 15 / Semester: semester 2

Through researching and generating research ideas, and designing a feasible research proposal, students will develop important research design skills, as well as time management and independent thinking skills. This module will prepare students for their dissertation module.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

FINAL PROJECT

Your final semester is all about planning, researching and writing your dissertation. You will use all of the skills and knowledge you gained in previous modules to develop a full-scale research project that mimics the kind of content you may be producing beyond your master's – whether it's in the style of a consultancy report, journal article, scientific report or classic dissertation.

COMPULSORY MODULES

DISSERTATION - ENVIRONMENTAL SCIENCES (ENVS490)

Credits: 60 / Semester: summer

This module aims to consolidate research skills developed during the course and, ultimately, to deliver a dissertation document demonstrating the ability to describe and interpret findings in light to the wider knowledge base and academic literature. The student will execute an individual research project building on the design developed in ENVS484; they will acquire the ability to synthesize different information sources to form coherent arguments and relate research findings to relevant applied issues. Students will also acquire an appreciation of time-management and independent thinking.

Any optional modules listed above are illustrative only and may vary from year to year. Modules may be subject to minimum student numbers being achieved and staff availability. This means that the availability of specific optional modules cannot be guaranteed.

HOW YOU'LL LEARN

You will be taught through a mixture of lectures, practical classes, fieldwork, private study, and supervised project work. At the start of the first semester you will participate in a week-long residential field class in the UK, and in both semesters, lectures are supplemented by regular laboratory and computer practical classes.

During the course, you will develop key study skills, presentation skills, data handling and analysis skills, and group work. The combination of modules is designed to promote independent thinking, critical insight, leadership, team work and to give you a sound

understanding of environmental issues (from global to local). The teaching strategy is designed to place a strong emphasis on data analysis and evidence synthesis.

HOW YOU'RE ASSESSED

Assessment methods are diverse across the modules and include exams, assessed essays, laboratory and computer practicals, field assignments, group work, reports, oral presentations and dissertations. A few modules are fully assessed by a series of practical reports.

When possible, you will create assessments that simulate the sort of work you might produce when conducting research beyond master's level such as consultancy reports, academic posters, abstracts and presentations, and dissertations which could be written as an academic paper or scientific/consultancy report.

In your third semester you will undertake your dissertation where you will be assessed on how well you demonstrate the ability to describe and interpret findings, synthesize different information sources to form coherent arguments and relate research outcomes.

LIVERPOOL HALLMARKS

We have a distinctive approach to education, the Liverpool Curriculum Framework, which focuses on research-connected teaching, active learning, and authentic assessment to ensure our students graduate as digitally fluent and confident global citizens.

Careers and employability

You'll have lots of choice when you graduate from this programme. Not only is the world of PhD, teaching and post-doctoral research open to you but previous graduates have gone on to work in a wide variety of positions in the field of Environmental Science.

Career support from day one to graduation and beyond

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[Our Careers Studio and career coaches can provide tailored support for your future plans.](#)

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[From education to employment](#)

[Employability in your curriculum for a successful transition](#)

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Networking events

[Make meaningful connections with like-minded professionals](#)

YOUR FUTURE

Previous graduates have gone on to have positions in many areas, such as:

- Environmental Consultancy
- Hydrologist
- Technical Chemist
- County Council Waste Recycling Officer
- National Parks Manager
- Geotechnical Engineer
- Technologist Environmental Advisor
- Policy Officer

- Clean Water Scientist
 - Waste Management Consultant
 - Environmental Risk Assessor
 - Marine Resource Manager
 - Trainee Weather Forecaster.
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Fees and funding

Your tuition fees, funding your studies, and other costs to consider.

TUITION FEES

UK fees (applies to Channel Islands, Isle of Man and Republic of Ireland)	
Full-time place, per year	£12,500

International fees	
Full-time place, per year	£28,300

Fees stated are for the 2025-26 academic year.

Tuition fees cover the cost of your teaching and assessment, operating facilities such as libraries, IT equipment, and access to academic and personal support.

- You can [pay your tuition fees in instalments](#).
- All or part of your tuition fees can be [funded by external sponsorship](#).
- International applicants who accept an offer of a place will need to [pay a tuition fee deposit](#).

If you're a UK national, or have settled status in the UK, you may be eligible to apply for a Postgraduate Loan worth up to £12,167 to help with course fees and living costs. [Learn more about fees and funding](#).

ADDITIONAL COSTS

We understand that budgeting for your time at university is important, and we want to make sure you understand any course-related costs that are not covered by your tuition fee. This could include buying a laptop, books, or stationery.

Find out more about the [additional study costs](#) that may apply to this course.

SCHOLARSHIPS AND BURSARIES

We offer a range of scholarships and bursaries that could help pay your tuition and living expenses.

We've set the country or region your qualifications are from as United Kingdom. [Change it here](#)

- **POSTGRADUATE GLOBAL ADVANCEMENT SCHOLARSHIP – ACHIEVEMENT**

- [International students](#)

[If you're an international student joining a master's course with us, you could be eligible to receive a tuition fee discount of £2,500, based on your prior academic achievement, choice of course, and you not having studied with us before.](#)

- **POSTGRADUATE GLOBAL ADVANCEMENT SCHOLARSHIP – COUNTRY**

- [International students](#)
- [Antigua and Barbuda](#)
- [Australia](#)
- [Bangladesh](#)
- [Barbados](#)
- [Belize](#)
- [Brunei](#)
- [Canada](#)
- [China](#)
- [Cyprus](#)
- [Dominica](#)
- [Egypt](#)
- [Ghana](#)
- [Grenada](#)
- [Guyana](#)
- [India](#)
- [Jamaica](#)
- [Japan](#)
- [Kenya](#)
- [Malaysia](#)
- [Mauritius](#)
- [Mexico](#)
- [New Zealand](#)
- [Nigeria](#)
- [Pakistan](#)
- [Saint Kitts and Nevis](#)
- [Saint Lucia](#)
- [Saint Vincent and The Grenadines](#)
- [Singapore](#)
- [South Africa](#)
- [South Korea](#)
- [Sri Lanka](#)
- [Tanzania](#)
- [Thailand](#)
- [Trinidad and Tobago](#)

- [Turkey](#)
- [Uganda](#)
- [Vietnam](#)

[If you're an international student joining a master's course with us, you could be eligible to receive a tuition fee discount of £2,500, based on your nationality, choice of course, and you not having studied with us before.](#)

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GRADUATE LOYALTY ADVANCEMENT SCHOLARSHIP

- [Home and international students](#)

[If you're a University of Liverpool graduate starting this master's degree with us, you could be eligible to receive a loyalty discount of up to £2,500 off your master's tuition fees.](#)

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CHILEAN NATIONAL AGENCY FOR RESEARCH AND DEVELOPMENT (ANID) SCHOLARSHIP

- [International students](#)
- [Chile](#)

[If you're a Chilean student joining a master's degree, you could be eligible to apply for a 20% discount on your tuition fees with a Chilean National Agency for Research and Development \(ANID\) Scholarship. Scholarship.](#)

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CHEVENING SCHOLARSHIPS

- [International students](#)
- [Albania](#)
- [Algeria](#)
- [Anguilla](#)
- [Antigua and Barbuda](#)
- [Argentina](#)
- [Australia](#)
- [Azerbaijan](#)
- [Bangladesh](#)
- [Barbados](#)
- [Belize](#)
- [Bolivia](#)
- [Brazil](#)
- [British Virgin Islands](#)
- [Brunei](#)
- [Canada](#)
- [Cayman Islands](#)
- [Chile](#)
- [China](#)
- [Columbia](#)
- [Costa Rica](#)
- [Cuba](#)
- [Dominica](#)

- [Ecuador](#)
- [Egypt](#)
- [El Salvador](#)
- [Ghana](#)
- [Guatemala](#)
- [Guyana](#)
- [Honduras](#)
- [Hong Kong](#)
- [Iceland](#)
- [India](#)
- [Indonesia](#)
- [Iraq](#)
- [Jamaica](#)
- [Japan](#)
- [Jordan](#)
- [Kazakhstan](#)
- [Kenya](#)
- [Libya](#)
- [Malaysia](#)
- [Mauritius](#)
- [Mexico](#)
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- [Montserrat](#)
- [Morocco](#)
- [Nepal](#)
- [New Zealand](#)
- [Nicaragua](#)
- [Nigeria](#)
- [Pakistan](#)
- [Panama](#)
- [Paraguay](#)
- [Peru](#)
- [Philippines](#)
- [Russia](#)
- [Saint Kitts and Nevis](#)
- [Saint Lucia](#)
- [Saint Vincent and The Grenadines](#)
- [Serbia](#)
- [Singapore](#)
- [South Africa](#)
- [South Korea](#)
- [South Sudan](#)
- [Sri Lanka](#)
- [Sudan](#)
- [Taiwan](#)
- [Tanzania](#)
- [Thailand](#)

- [Trinidad and Tobago](#)
- [Turkey](#)
- [Turks and Caicos Islands](#)
- [Uganda](#)
- [Ukraine](#)
- [Uruguay](#)
- [Venezuela](#)
- [Vietnam](#)
- [Zimbabwe](#)

[If you're an international student from an eligible country, joining a one-year master's course, you could be eligible to apply for a Chevening Scholarship. If your application is successful, you could expect to have your master's fees paid, up to a maximum of £18,000, and receive additional help with living costs.](#)

CONSEJO NACIONAL DE CIENCIA Y TECNOLOGIA (CONACYT) AWARD

- [International students](#)
- [Mexico](#)

[If you're a Mexican student joining a master's degree, you could be eligible to apply for a 30% discount on your tuition fees with a CONACyT Award.](#)

FUND FOR THE DEVELOPMENT OF HUMAN RESOURCES (FIDERH) AWARD

- [International students](#)
- [Mexico](#)

[If you're a Mexican student joining a master's degree and you're in receipt of a FIDERH graduate loan, you could be eligible to benefit from a 20% discount on your tuition fees with a FIDERH Award.](#)

FUNED AWARD

- [International students](#)
- [Mexico](#)

[If you're a Mexican student joining a master's degree and you're in receipt of a FUNED loan, you can apply to be considered for a 20% tuition fee discount. A total of up to 50 awards will be available to master's and PhD students per academic year.](#)

FUNED SCHOLARSHIP FOR WOMEN IN STEM SUBJECTS

- [International students](#)
- [Mexico](#)

[If you're a female Mexican student joining an eligible master's course in a science, technology, engineering or maths \(STEM\) subject and you're in receipt of a FUNED loan, you can apply to be considered for a 25% tuition fee discount. Up to five awards are available in each academic year.](#)

- **HRH PRINCESS SIRINDHORN UNIVERSITY OF LIVERPOOL SCHOLARSHIP (THAILAND)**

- [International students](#)
- [Thailand](#)

[If you're a student from Thailand joining a one-year master's degree, you might be eligible to apply to have your tuition fees paid in full and receive help with living costs. One award is available and only students who are new to the University will be considered.](#)

- **HUMANITARIAN SCHOLARSHIPS FOR MASTER'S PROGRAMMES**

- [International students](#)

[Do you have recognised status as a refugee or person with humanitarian protection outside the UK? Or are you a Ukrainian who's sought temporary protection in the EU? You could be eligible to apply for the full payment of your master's fees and additional financial support.](#)

- **JOHN LENNON MEMORIAL SCHOLARSHIP**

- [Home students](#)

[If you're a UK student, either born in or with strong family connections to Merseyside, you could be eligible to apply for a fee discount of up to £4,500. You'll need to demonstrate an active interest in global, community and environmental issues to be considered.](#)

- **JUVENTUDES GTO SCHOLARSHIP**

- [International students](#)
- [Mexico](#)

[If you're a resident of the state of Guanajuato in Mexico joining a master's degree, you could be eligible for a 10% discount on your tuition fees with a JuventudEsGto Scholarship.](#)

- **KAPLAN DIGITAL PATHWAYS EXCELLENCE SCHOLARSHIP**

- [International students](#)

[Completed a Kaplan Digital Pathways Pre-Master's? We're offering a £5,000 fee discount off the first year of master's study for a maximum of two high achieving students joining one of our non-clinical master's courses from an online Kaplan Pre-Master's programme.](#)

- **MARSHALL SCHOLARSHIP**

- [International students](#)
- [United States](#)

[If you're a USA student joining an eligible master's with us, you could be eligible to apply for a Marshall Scholarship. If your application is successful, your master's tuition fees will be paid in full. One Marshall Scholarship for master's study is available in each academic year.](#)

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POSTGRADUATE OPPORTUNITY BURSARY

- [Home students](#)

[If you're a UK University of Liverpool graduate joining a master's degree with us, you could be eligible to receive £3,000 off your tuition fees. You must have graduated in the last two years and received a widening access scholarship during your undergraduate studies.](#)

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SCOTTISH POWER SCHOLARSHIPS

- [Home students](#)

[Are you a UK student joining a master's course focused on sustainable energy or environmental protection? You could be eligible to apply for a Scottish Power Scholarship. This award offers full payment of your master's fees and a monthly bursary while you study.](#)

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SPORT LIVERPOOL PERFORMANCE PROGRAMME

- [Home and international students](#)

[Apply to receive tailored training support to enhance your sporting performance. Our athlete support package includes a range of benefits, from bespoke strength and conditioning training to physiotherapy sessions and one-to-one nutritional advice.](#)

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THE AZIZ FOUNDATION SCHOLARSHIP

- [Home students](#)

[If you're a British Muslim, active within a Muslim community and dedicated to bringing positive change to society, you could apply to potentially have the full cost of your master's tuition fees covered by an Aziz Foundation Scholarship.](#)

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TURKISH MINISTRY OF EDUCATION SCHOLARSHIP

- [International students](#)

- [Turkey](#)

[If you're a Turkish student joining a master's degree, you could be eligible to apply for a 20% discount on your tuition fees with a Turkish Ministry of Education Scholarship.](#)

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UNIVERSITY OF LIVERPOOL INTERNATIONAL COLLEGE EXCELLENCE SCHOLARSHIP

- [International students](#)

[Completed a Pre-Master's at University of Liverpool International College \(UoLIC\)? We're offering a £5,000 fee discount off the first year of master's study to some of the highest achieving students joining one of our non-clinical master's courses from UoLIC.](#)

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UNIVERSITY OF LIVERPOOL INTERNATIONAL COLLEGE IMPACT PROGRESSION SCHOLARSHIPS

- [International students](#)

[If you're a University of Liverpool International College student awarded a Kaplan Impact Scholarship, we'll also consider you for an Impact Progression Scholarship. If selected, you'll receive a fee discount worth £3,000 off the first year of your master's course.](#)

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[VICE-CHANCELLOR'S INTERNATIONAL ATTAINMENT SCHOLARSHIP FOR MAINLAND CHINA](#)

- [International students](#)
- [China](#)

[Are you a high-achieving graduate from the People's Republic of China with a degree from a Chinese university? You could be eligible to apply for a £5,000 fee discount if you're joining an eligible master's course. Up to 15 eligible students will receive this scholarship.](#)

Entry requirements

The qualifications and exam results you'll need to apply for this course.

Your qualification	Requirements About our typical entry requirements
GCSE	4/C in English and 4/C in Mathematics
Postgraduate entry requirements	<p>We accept a 2:2 honours degree from a UK university, or an equivalent academic qualification from a similar non-UK institution. This degree should be in a relevant subject.</p> <p>Non-graduates with very extensive professional experience and/or other prior qualifications may also be considered.</p>
International qualifications	<p>Many countries have a different education system to that of the UK, meaning your qualifications may not meet our entry requirements. Completing your Foundation Certificate, such as that offered by the University of Liverpool International College, means you're guaranteed a place on your chosen course.</p>

THE ORIGINAL

REDBRICK