

Climate Resilience and Environmental Sustainability in Architecture MSc

COURSE DETAILS

- Full-time: 12 months

KEY DATES

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

Course overview

Develop practical expertise in the environmental design of buildings and their surroundings in the context of a changing climate. You'll get hands-on experience using computer environmental modelling software and explore pioneering developments in sustainable architecture.

INTRODUCTION

Bringing together graduates and professionals from a range of backgrounds, this programme will enhance your knowledge of environmentally friendly and sustainable building design.

We'll immerse you in the climate-sensitive design of buildings and urban landscapes and hone your skills in environmental assessment. You'll explore the evolution of the environmental design of architecture and discover how to use the latest computer environmental modelling software.

Developing skills in the application of this software, you'll start to design buildings and their surroundings that are energy-efficient and sustainable. Your learning will be fully informed by the scientific study of climate change and key responses such as net zero carbon design.

A comprehensive grounding in research methods will complement your environmental design skills. You'll be taught by academic experts with highly rated international research in history and theory, environment and process, urban design, conservation and innovative technologies.

There is the additional opportunity to tailor the course to your own interests and further tap into the research expertise of the programme team. Examine key architectural concepts,

hone your urban design skills, enhance your knowledge of low energy/low carbon building design, or learn additional specialised modelling tools and techniques.

WHO IS THIS COURSE FOR?

This master's is suitable for graduates from architecture, landscape architecture, design, engineering, and physical sciences disciplines who want to pursue a career in environmental and sustainable building design.

WHAT YOU'LL LEARN

- How to use computer environmental modelling software
- Sustainable design skills that reduce environmental impact
- Practical skills in environmental assessment
- Research methods and effective analysis
- The basis and impact of climate change
- Urban design techniques
- Key architectural concepts and theories

School of Architecture support:

- Small group teaching with experienced academics
 - Interdisciplinary teaching within a very strong research environment
 - One-to-one support from individual tutors
 - A diverse and international student community
 - Access to substantial library resources in the area of sustainable design
 - Opportunities to develop individual research interests
-

Course content

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

SEMESTER ONE

COMPULSORY MODULES

CLIMATIC DESIGN FOR SUSTAINABLE ARCHITECTURE (ARCH716)

Credits: 15 / Semester: semester 1

This module introduces the key principles of climate sensitive design for different climates around the world. Students will learn how to use relevant software to help in climate design and will apply this knowledge to an assignment involving the conversion of shipping containers to climate-sensitive passive dwellings. The module is taught through a series of lectures, tutorials and workshops.

ENVIRONMENTAL ASSESSMENT TECHNIQUES (ARCH717)

Credits: 15 / Semester: semester 1

This module covers the scientific study of dynamic building simulation, how building designers can model a building and simulate its environmental and energy performances using software packages, and how the simulated data can be interpreted and assessed according to regulations and green building rating systems.

NET ZERO CARBON DESIGN (ARCH747)

Credits: 15 / Semester: semester 1

Net zero carbon design is a key response to how buildings will reduce their environmental impact and help combat climate change. This module considers developments in the environmental design of buildings, from the vernacular architecture of the past to the 21st Century target of net zero carbon. The module covers key carbon issues, such as embodied carbon, life cycle analysis and the retrofitting of existing buildings. The health of building users is an important factor in sustainable design, and the module reviews indoor conditions and their effects on physical and mental wellbeing. The module will be delivered as lectures (from tutors who are active researchers in net zero carbon design), as workshops, as site visits and as guest talks from practitioners. Assessment will be a detailed case study report (70%) and presentation (30%) of net zero carbon buildings located in two different climate regions.

OPTIONAL MODULES

ARCHITECTURAL THEORIES FROM 1900 TO THE PRESENT (ARCH712)

Credits: 15 / Semester: semester 1

The module provides an introduction to key architectural concepts, themes and theories that have been influential in the field of architecture globally from 1900 onwards. It also introduces a framework for the understanding of the ongoing discourses in the field. It engages with a wide range of written texts on architectural theory – whether these originate from within architecture or from other disciplines – as well as architectural designs that have been informed by those ideas.

URBAN DESIGN (ARCH731)

Credits: 15 / Semester: semester 1

This module aims to help students develop in-depth knowledge on urban design and enhance their design skills to address the complex urban challenges of our age. It intends to prepare students to become creative and problem-solving professionals. To do so, this module will introduce students to a wide range of urban design theories, design principles and processes which underpin the discipline of urban design. Students will have the opportunity to study and debate key issues in urban design, the disciplinary foundations of urban design, various topics about public spaces, the application of urban analytical techniques and methods for practice, as well as urban design governance in relation to the planning system. The module will draw examples or case studies from both the local and international contexts and encourage students to think critically about possible design interventions in different urban environments towards sustainable development and place-making.

Since this module is taught together with ARCH406 Urban Design which is a compulsory module for the accredited MArch programme in Architecture, ideally students who select this module need to have some design skills from previous training in Architecture, Planning or Landscape Architecture.

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

COMPULSORY MODULES

DESIGNING FOR A CHANGING CLIMATE (ARCH719)

Credits: 15 / Semester: semester 2

This module covers the scientific study of climate change, how building designers can adapt and mitigate against future changes, how future climate data are generated and used in computer simulation programmes.

RESEARCH METHODOLOGY (ARCH707)

Credits: 15 / Semester: semester 2

Research methods training for MA/MSc thesis

SUSTAINABLE ENVIRONMENTAL DESIGN (ARCH734)

Credits: 30 / Semester: semester 2

It is now recognised that buildings, through the materials they consume, the waste they generate and the energy they use, are having a major impact upon the environment. Climate change is one manifestation of this impact, and at national and international levels targets are being set for reducing the CO2 emission associated with the built environment. New regulations to meet these targets will influence the ways in which buildings are designed and engineered both today and in the future. This module aims to address these issues by developing an understanding of the principles underpinning environmentally sustainable design and develop skills for more sustainable design practices in areas such as passive design, sustainable construction and low impact building materials.

OPTIONAL MODULES

SUSTAINABLE CONSTRUCTION AND MANAGEMENT (ARCH733)

Credits: 15 / Semester: semester 2

For this module, students will evaluate the implications of construction and management in sustainable design. More specifically they will be taught how construction and management now form an essential element of sustainable design for real world scenarios. In this module students will be required to attend a weekly 2-hour lecture. Each lecture will be held in lecture theatres and will be a mixture of formal presentations and group based exercises.

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

COMPULSORY MODULES

THESIS: DISSERTATION (ARCH721)

Credits: 60 / Semester: summer

A primary aim of this module is to offer the opportunity to submit a conventional written dissertation on an individual, approved topic related to the student's degree topic.

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

Teaching on the MSc CRESTA in the Liverpool School of Architecture is delivered through a combination of lectures, seminars, workshops and tutorials, all of which are presented in person and on campus. The MSc CRESTA tutors are all experienced academics with strong track records in teaching and research related to environmental design.

Depending on which module options are taken, class sizes will typically vary between 15 and 30 students, and the small group teaching encourages strong interactions between the students and with the tutors.

HOW YOU'RE ASSESSED

Students on the MSc CRESTA are assessed using a variety of formats that include written assignments, posters, presentations, computer simulations, design projects and a research dissertation.

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

The MSc CRESTA develops both practical skills in environmental assessment and a deeper understanding of climate-sensitive design, planning for climate change, sustainable architecture and computer modelling of sustainable building and urban environments. Computer environmental modelling and the application of that modelling to sustainable environmental design are investigated via coursework assignments. Students also acquire specific analytical skills in the application of both quantitative and qualitative research methods and generic research skills, such as reflective learning, literature reviewing and dissertation writing.

The knowledge and professional skills that students will develop upon completion of the CRESTA programme will prepare them for a wide range of potential career areas, including employment in higher education (teaching and/or research), architectural practices and sustainability design consultancies.

Graduates from CRESTA go on to work both in the UK and internationally. For example, one graduate is now National Head of Sustainability for a UK construction and property consultancy while another is a Sustainability Consultant for a major international architectural practice.

Career support from day one to graduation and beyond

•

Career planning

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

•

From education to employment

Employability in your curriculum for a successful transition

•

Networking events

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

YOUR FUTURE

You'll graduate equipped with the contemporary skills and knowledge to meet the growing demand for sustainable building expertise in:

- Architecture.
- Construction.
- Project management.
- Consultancy services.
- Higher education.

You may also wish to continue your studies and will find you are well prepared for PhD research.



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	£11,700

International fees	
Full-time place, per year	£26,600

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.](#)

•

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.](#)

•

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.](#)

•

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](#)
- [Moldova](#)
- [Mongolia](#)
- [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.](#)

•

HONG KONG GRADUATE ASSOCIATION & TUNG FOUNDATION

POSTGRADUATE SCHOLARSHIPS

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

[If you're a master's student from Hong Kong or the People's Republic of China who can demonstrate academic excellence, you may be eligible to apply for a scholarship worth up to £10,000 in partnership with the Tung Foundation.](#)

- **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.](#)

-

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.

-

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.

-

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.

-

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.

-

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.

-

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.

- **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 an appropriate field of study. For example, Architecture, Landscape Architecture, Design, Engineering or Physical Sciences. Please contact us if you wish to check whether your degree subject is suitable, however a wide spectrum of subjects are acceptable.</p> <p>Candidates who do not meet these requirements will be considered on their individual merits and should discuss their particular circumstances with the Programme Director.</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