Postgraduate PROSPECTUS
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Follow us on social media for updates from CAT and the Graduate School of the Environment:

Facebook: Centre for Alternative Technology
Twitter: @centre_alt_tech
Instagram: @centreforalternativetechnology
Welcome to CAT’s Graduate School of the Environment

For over 40 years the Centre for Alternative Technology (CAT) has held a unique mission, researching, demonstrating and teaching solutions for a changing environment. Today, CAT’s activities are more important than ever before. As the impacts of climate change and environmental degradation become ever harder to ignore, CAT’s ability to promote holistic, practical and evidence-based solutions becomes ever more important.

The Graduate School of the Environment at CAT has a long tradition of teaching sustainability in an enriching and solutions-focused way. Over the last decade, the Graduate School has produced over 1,500 committed graduates, many of whom have taken their experience at CAT and used it to become environmental ‘changemakers’ in their workplaces, communities or personal lives.

CAT’s Graduate School remains unique amongst Higher Education providers in that it has a singular focus on delivering practically based courses embracing the sustainability agenda. Our lecturers have extensive design, research and practical expertise in sustainability, practice and design, and we supplement this with regular guest lectures from nationally and internationally renowned thinkers, specialists and practitioners, to ensure you are equipped with the latest paradigms and practice in environmental sustainability.

We provide a fulfilling and nationally recognised university level education, whilst employing an alternative, holistic, supportive and immersive approach to your learning. Should you choose to study with us, we aim to equip you with the skills, knowledge and insights to allow you to play your part in creating the sustainable society that is needed now and for the future.

Dr Adrian Watson
Head of School
The decisions we make today are critical in ensuring a safe and sustainable world for everyone, both now and in the future.” Debra Roberts, IPCC

Radical action is needed now if we are to avoid dangerous climate breakdown.

The Intergovernmental Panel on Climate Change (IPCC) is clear: humanity must reach net-zero greenhouse gas emissions by mid-century. The earlier this is achieved, the greater our chance of limiting global temperature rise to near 1.5°C, helping prevent runaway climate change.

At the same time, we must find solutions to the ‘silent crisis’ engulfing the natural world. The way we have mismanaged land and sea and exploited species over the past 50 years has led to an unprecedented rate of ecosystem destruction and loss of biodiversity.

The challenge is to address these urgent issues while at the same time enhancing human health and wellbeing, and adapting our physical and social structures to cope with the climatic and environmental change that is already in the system.

For over 40 years, CAT has explored sustainable solutions to environmental challenges. From early experiments with renewable energy and green building to pioneering research into creating a Zero Carbon Britain and education work in all aspects of sustainability, CAT has always been at the leading edge of working on practical, evidence-based solutions.
CAT’s postgraduate courses are respected across the world, offering a big-picture, integrated approach to sustainability.

Our unique location, practical facilities and immersive educational environment provides academic learning combined with practical experimentation, helping you to develop the knowledge, skills, inspiration and networks to make a real difference in your chosen field.

A lecture on building physics and the thermal properties of different materials might be followed by an afternoon spent testing u-values, helping reinforce your understanding and giving you skills and experience that could be helpful in the workplace. All of our courses offer this valuable combination of theory and practice.

Our mix of expert in-house staff and specialist guest lecturers provides a unique blend of expertise from academia, practice and industry. You can read more about our lecturers on pages 48 – 54.

The people that you’ll be studying alongside are just as important. Nowhere else can you learn about sustainable solutions alongside people who care about the issues as much as you do. You’ll meet people from across the UK and around the world from a wide variety of different backgrounds, from physics to farming and from construction to commerce. They also bring different levels of prior knowledge, whether that is in academic studies or in their professional field.

What we hear time and again from our students is that it is this mixing pot of ideas, knowledge, passion and understanding that makes CAT a truly special place to learn.

We hope you’ll decide to join us.

“CAT is such a stimulating, rewarding and demanding place. I have made good friends, learnt excellent new skills, gained so much confidence and discovered materials I had no idea about, despite my advanced years. I cannot praise you all highly enough for the effort, enthusiasm, tolerance and dedication that you put into the course. Many, many thanks for that.

CAT Graduate
Full-time or Part-time?

All of our postgraduate degrees are available on a full-time or part-time basis.

Full-time study on an MSc will take between 6 and 18 months, depending on which level of study you choose.

Part-time study on an MSc allows you to spread your module choices out across two years or more.

All new students start in September.

Which Level of Study?

**MSc awards** require core and optional modules (120 credits) plus a compulsory dissertation (60 credits).

**Postgraduate Diploma (PGDip) awards** require core and optional modules (120 credits)

**Postgraduate Certificate (PGCert) awards** require core and optional modules (60 credits)

You’ll find information about the number of credits for each module in the courses pages.

Validation and Quality Assurance

CAT is an independent learning provider. Our Masters courses are validated by either the University of East London or Liverpool John Moores University.

The Graduate School’s academic standards and student learning opportunities are also regularly reviewed by the Quality Assurance Agency for Higher Education (QAA).
Choosing How you Study

Our course delivery is quite different from most postgraduate degrees.

Taught eight-week modules offer an immersive learning experience through lectures, talks, seminars and workshops. Within this, you can choose to spend a residential study week at CAT, or you can take the whole module completely at a distance. Some students come to CAT for every module, some study entirely by distance learning, many do a mix of the two.

Studying by Distance

Entire modules studied at a distance are typically arranged as a sequence of teaching activities over an eight-week period. Students are able to set their own schedule around seminars and group work, accessing lecture notes, recordings and supporting material via an online learning platform, discussion apps, Skype and phone.

The online platforms help create a sense of community and allow regular interaction between CAT students, academic tutors and support staff.

“During the online group tutorials, the tutors tested and broadened our understanding whilst encouraging us all to discuss and debate the issues, ask questions, voice our opinions and made sure the ‘quiet ones’ were involved as well. My pastoral tutors, thesis supervisor and the support staff were excellent and supported me throughout.”

CAT Student
MSc students can study each module entirely by distance, or you can choose to join us for a residential study week as part of the module. You can choose which method you prefer on a module-by-module basis.

Residential visits are an essential element of our MArch: Sustainable Architecture course, so all architecture students attend these weeks.

On-site weeks at CAT typically last five or six days, and are made up of lectures, seminars, tutorial time and practical sessions. It’s a chance to pack lots of learning into one week, network with fellow students, staff and guest lecturers, and really immerse yourself in studying sustainable solutions within a truly unique learning environment. Conversation flows long into the evening as staff and students debate the issues and explore solutions together.

You then return home to complete study in your own time, fitting coursework around life’s other demands, and accessing learning materials via online learning platforms, just as distance learning students do.

“The whole experience was absolutely fantastic. I thoroughly enjoyed everything, from the practical studies to the student project debates and the invaluable lectures. The enthusiasm and energy that radiated from everyone was just a total BUZZ. Suffice to say, I enjoyed it so much, I didn’t want to come home.”

CAT Student
Facilities and Location

On-site residential weeks offer the chance to study in a unique learning environment.

CAT’s location on the edge of the Snowdonia National Park, within a UNESCO Biosphere reserve, makes it a truly beautiful and peaceful place to study and a great base from which to enjoy nature and the outdoors.

Our sustainably managed woodlands and productive organic gardens provide a place to relax and reconnect with nature, whilst also being available to students for research projects and hands-on learning.
CAT is a living laboratory containing some of the most innovative environmentally conscious buildings in the country, including examples made with earth, timber, straw, hemp and lime.

We have a diverse range of installed renewable and low carbon technologies, including solar photovoltaics, solar thermal, hydro-electricity, heat pumps, small wind turbines and efficient biomass heating.

A wide variety of habitats are also represented on and around the CAT site. With easy access to wetlands and woodlands, high mountain pastures, heathland, and riverine, coastal and transitional waters, students can have hands-on experience studying and evaluating biodiversity, land use and our ecosystem.

“I was able to use the buildings on site as real case studies, including undertaking air pressure testing and thermal imaging on the Self Build House, undertaking experiments with green roofs, using the workshop for straw bale construction and building a prototype timber frame disaster shelter on site.”

CAT Student
The WISE Education and Conference Centre

On residential weeks, most of your lectures and seminars will take place in the award-winning WISE building, designed by Pat Borer MBE and David Lea. Incorporating innovative design and materials, WISE provides an inspiring, comfortable environment in which to study. Its centre-piece is a large circular rammed earth lecture theatre – a stunning example of sustainable architecture.

“When I started at CAT, I could never have imagined how much you would learn, and how it would enable me to change the course of my career to be able to work on something I really believe in, and which I feel can make a difference. “

CAT Student
### Fees and Funding

#### Tuition Fees

Fees can be paid on a module-by-module basis, allowing you to spread the cost of your studies, or you can choose to pay the whole amount up-front.

The fees below are the fees for students enrolling in September 2020.

<table>
<thead>
<tr>
<th>Course</th>
<th>UK/EEA Resident Students</th>
<th>International Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full MArch course</td>
<td>£12,485</td>
<td>N/A</td>
</tr>
<tr>
<td>Full MSc (180 credits)</td>
<td>£6,840</td>
<td>£8,185</td>
</tr>
</tbody>
</table>

**Alternative awards:**

<table>
<thead>
<tr>
<th>Course</th>
<th>UK/EEA Resident Students</th>
<th>International Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate Diploma (120 credits)</td>
<td>£5,760</td>
<td>£6,880</td>
</tr>
<tr>
<td>Postgraduate Certificate (60 credits)</td>
<td>£2,880</td>
<td>£3,440</td>
</tr>
</tbody>
</table>

See website for full terms and conditions: [www.cat.org.uk/fees](http://www.cat.org.uk/fees)

#### Additional Costs

**Enrolment Deposit** – Prior to the commencement of the course, a £50 non-refundable deposit must be paid alongside the completion of the pre-enrolment form.

**Masters in Sustainable Architecture** – Students should also budget an estimated £300 for participation in the study visit (costs vary depending on booking choice for accommodation, meals and transport).

**Sustainability in Energy Provision and Demand Management** – Students on this course should budget a further estimated £150 for the purchase of data-collecting equipment, some of which will be needed during the first core module. Further information about this will be distributed to Sustainability in Energy Provision and Demand Management applicants closer to enrolment.
Accommodation and Food Costs

Accommodation is also available on-site at CAT during the residential study weeks (typically five days for MSc modules and six days for MArch modules).

The WISE building offers shared twin en-suite rooms for £30 per person per night.

Bunkhouse style shared accommodation is also available in our Eco Cabins, which have some cooking facilities, at £20 per person per night.

For more information please visit www.cat.org.uk/student-accommodation.

The CAT café offers affordable vegetarian, vegan and gluten-free meals (breakfast, lunch and dinner) for students. Prices vary but students are advised to budget an estimated £15 – £20 per day for on-site meals.

Funding may be available to help cover these costs – see page 14 for details.
Thanks to a generous donation from Sir John Houghton, CAT is able to offer an annual bursary of £4,500 to a promising postgraduate student who demonstrates that they have an excellent academic record and a passion for tackling climate change.

Sir John has had an illustrious career as one of the world’s most eminent climate scientists, including being co-chair of the UN Intergovernmental Panel on Climate Change (IPCC) Scientific Assessment Working Group and a former Chief Executive of the Met Office.

A long-term supporter of CAT’s work, Sir John says:

“I have spent a lifetime studying the atmosphere and the climate and latterly have been concerned with the reality of human induced climate change. I now want to help the next generation tackle this serious problem, possibly the biggest the world faces.”

See our Fees and Funding page on the website for full details and to apply.
Sustainable Architecture
Masters in Architecture
ARB Part II
Building design plays an important role in improving quality of life and human wellbeing whilst also helping with climate change mitigation and adaptation.

MArch: Sustainable Architecture offers architects an ARB-prescribed Part II qualification drawing on CAT’s 40 years of experience in sustainability practice.

The intensive course allows graduates to respond more quickly to the urgent need for a greater understanding of sustainability issues in the built environment.
Studying at CAT is not like studying in any other university. My studies have been positively impacted by the absence of competition and unnecessary pettiness which often occurs in architecture schools. CAT has been a home, a family and the greatest experience I have undertaken up to this moment in time.

**Course Structure**

This MArch Part II degree starts in September and is available full-time for 22-months or part-time over three years. The course structure has been designed to accommodate students who wish to maintain a limited amount of employment or other commitments.

Full-time students spend an average of 35 hours per week on their studies, attending CAT for one week in every month.

Interested in studying with us? Join our next open day or contact us.

“Studying at CAT is not like studying in any other university. My studies have been positively impacted by the absence of competition and unnecessary pettiness which often occurs in architecture schools. CAT has been a home, a family and the greatest experience I have undertaken up to this moment in time “

CAT Student
Key Areas of Study

An architecture masters with sustainability at its core, the course focuses on how sustainability can be thought about in the design process in order to create buildings that are functional and sustainable as well as aesthetically pleasing.

This highly practical course allows you to combine design-based academic study with hands-on learning, expanding your critical awareness of current architectural and environmental problems to develop new insights.

You will be studying at the forefront of understanding of sustainable architecture, drawing on the skills and knowledge of in-house experts and external designers, including leading sustainable architects such as Professor Pat Borer, Patrick Hannay and Chris Loyn.

You’ll also have the chance to get involved in community projects, allowing you to develop real-world practical experience.

“The pattern of week-long intensive lecture and studio time in a residential setting is a great incubator for the in-depth discussion, sharing of information and experiences, and peer-to-peer learning that makes CAT quite unique.”

CAT Student
40 years of Sustainable Architecture

CAT’s world leading eco-centre is a pioneer in researching and teaching practical solutions for sustainability. Having spent over 40 years experimenting with sustainable architecture, CAT is uniquely placed to offer training in this area.

Monthly intensive residential study weeks offer an immersive learning experience – you’ll be living and learning in award-winning buildings made from earth, straw, hemp and timber, all designed with environmental impact in mind.

Projects, lectures, talks, seminars, workshops and practical sessions are all part of the programme of module teaching weeks at CAT.

You will develop your skills and knowledge through practical activities, build projects and design tasks alongside studio learning, lectures, small group seminars and discussion forums, group work tasks, tutorials and written and visual learning resources.

This approach to teaching and learning provides a thorough understanding of the complex challenges that occur when theories are put into practice.

Find out more on our website www.cat.org.uk

This course is created and delivered by CAT, validated by the University of East London and prescribed by the Architects Registration Board.
Entry Requirements

- Exemption from ARB Part I or a relevant undergraduate degree. If you have a relevant undergraduate degree that does not carry an exemption from ARB’s Part 1 examination you will be required to successfully complete the ARB’s Part 1 examination before you can register as an architect in the UK.

- Digital portfolio of work.

- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

- This course is highly practical and requires attendance in person at CAT. If you live outside of the UK or EEA and require a student visa you cannot study this course as we do not hold the required Tier 4 licence. You may instead wish to look at our MSc Green Building, which is available via distance learning.

Please apply online through our website: www.cat.org.uk/apply

Find out More

Visit our website: www.cat.org.uk/graduate-school

Contact us: study@cat.org.uk | +44 (0)1654 705953

Join an open day: Our open days are informative and inspiring, offering time around structured sessions to chat with current students and our lecturers. Open days happen regularly throughout the year from October through to July. Book yourself a place online or by calling us.
MSc Courses
To tackle climate change, we need a transformation in our relationship with energy.

Net zero greenhouse gas emissions can be achieved through large scale investment in renewable and low carbon energy sources combined with a radical increase in energy efficiency and the intelligent management of resources.

Study the challenges and gain an in-depth understanding of effective solutions on a wide-ranging course taught by experts from industry and academia.
Key Areas of Study

On this course you will examine renewable energy provision, the science and engineering behind sustainable energy, global and local energy markets, energy and resource management, and the role of decision-makers at different levels in achieving energy security and sustainability.

Explore energy technologies and new advances in energy storage, smart grids and meters, and gain practical experience in effective energy management through computer modelling, data collection and analysis.

Get to grips with wind, solar, hydro and marine energy, including everything from hands-on practical sessions to the policy and economic background that could help or hinder the rollout of these technologies.

Core Modules

- Introduction to Sustainability in Energy Provision and Demand Management (30 credits)
- Energy Flows in Buildings – Part B (15 credits)
- Energy Generation from Wind (15 credits)
- Energy Generation from Solar (15 credits)
- MSc Dissertation (60 credits)

Optional Modules

- Energy Flows in Buildings – Part A (15 credits)
- Environmental Politics and Economics (15 credits)
- Energy Generation, Supply and Demand in Cities (15 credits)
- Hydroelectric and Marine Energy Generation (15 credits)
- Work-based Project (15 credits)
- Applied Project (15 credits)

CAT MSc courses are highly flexible to allow you to fit your studies around other commitments – turn to page 6 for details.

This course is created and delivered by CAT and validated by the University of East London.
Entry Requirements

- We ask for a numerate Bachelor’s degree or knowledge and skills equivalent to degree standard.
- An appropriate level of numeracy and science are required for this programme.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

Please apply online through our website: www.cat.org.uk/apply

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Join an open day: Find out more about the course, meet students and lecturers, and take a tour of the CAT site. Open days happen regularly throughout the year from October through to July. Book yourself a place online or by calling us.
“Rapid, far-reaching and unprecedented changes in all aspects of society” are required if humanity is to prevent really dangerous levels of climate change."

UN IPCC 2018 Report on Global Warming of 1.5 °C

Immerse yourself in examining the causes, seriousness and urgency of climate change and – crucially – what changes are needed at international, national, local and individual level to help turn things around.

This course uses the concepts of sustainability and adaptation transformation to frame an analysis of environmental and climate change policy and its implications for society.
Key Areas of Study

This is a wide ranging course, covering a huge variety of topics related to sustainability.

Some of the topics you’ll study include: acute resilience pathways for cities and communities; environmental politics; environmentally responsive materials and resources; transport; social and economic systems; transformational change; risk and vulnerability assessment; adaptive capacity; sustainability thinking and adaptation transformation planning; land use; ecosystem services; waste; water and food security; sustainable design of buildings; energy provision; energy flows in buildings; and environmental assessment.

“It is unique – no other course in the UK can offer such a wide range of practical and theoretical learning on such a wide range of important sustainability issues.”

CAT Graduate
Core Modules

- Sustainability and Adaptation Concepts and Planning (30 credits)
- MSc Dissertation (60 credits)

Optional Modules

- Energy Flows in Buildings – Part A (15 credits)
- Energy Flows in Buildings – Part B (15 credits)
- Environmental Politics and Economics (15 credits)
- Cities and Communities (15 credits)
- Energy Provision (15 credits)
- Ecosystem Services: Land Use, Water and Waste Management (15 credits)
- Sustainable Materials in the Built Environment (15 credits)
- Applied Project (15 credits)
- Work-based Project (15 credits)

See page 6 for details of our flexible module structure.

Entry Requirements

- We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

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Sustainability and Adaptation Planning focuses on the key strategic and leadership challenges brought about by climate change and broader environmental issues.

Gain the tools to drive sustainability strategy and transformation across a range of organisations and government, including skills for incorporating risk assessment into decision making, dealing with uncertainty and looking at the social aspects of behavioural change.
Key Areas of Study

Sustainability and Adaptation Planning covers a variety of themes including land use, cities and communities, politics and economics, ecosystem functioning, water and waste management.

Optional modules in the built environment, energy, sustainable materials and renewable technologies can also be taken.

Theoretical concepts are reinforced with applied projects in landscape planning, design and case studies.
Core Modules

- Sustainability and Adaptation Concepts and Planning (30 credits)
- Environmental Politics and Economics (15 credits)
- Cities and Communities (15 credits)
- Ecosystem Services: Land Use, Water and Waste Management (15 credits)
- MSc Dissertation (60 credits)

Optional Modules

- Energy Flows in Buildings – Part A (15 credits)
- Energy Flows in Buildings – Part B (15 credits)
- Energy Provision (15 credits)
- Sustainable Materials in the Built Environment (15 credits)
- Applied Project (15 credits)
- Work-based Project (15 credits)

CAT MSc courses offer the flexibility to choose how and when you study – turn to page 6 for details.

Entry Requirements

- We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

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This course is created and delivered by CAT and validated by the University of East London.
Climate change poses two key challenges to modern architecture: how can buildings be made sustainable, and how can they be designed to take account of the effects of climate change?

This course uses the concepts of sustainability and adaptation to frame an understanding of the built environment at the community and individual buildings level.
**Key Areas of Study**

Key building issues covered in the course include: energy management and low energy design, sustainable materials, environmental performance assessment and energy provision. Students may further pursue interests in urban design, communities, ecology, water, ecological sanitation, politics and economics.

From spatial master-planning to politics and economics, get to the heart of how the environment must be brought into decision-making. Develop your ability to evaluate complex issues and become a self-reflective practitioner or researcher who can communicate evidence and conclusions clearly to specialist and non-specialist audiences.

**Core Modules**

- Sustainability and Adaptation Concepts and Planning (30 credits)
- Sustainable Materials in the Built Environment (15 credits)
- Energy Flows in Buildings – Part B (15 credits)
- MSc Dissertation (60 credits)

**Optional Modules**

- Energy Flows in Buildings – Part A (15 credits)
- Environmental Politics and Economics (15 credits)
- Cities and Communities (15 credits)
- Ecosystem Services: Land Use, Water and Waste Management (15 credits)
- Energy Provision (15 credits)
- Applied Project (15 credits)
- Work-based Project (15 credits)

CAT MSc courses are highly flexible, allowing you to fit your studies around other commitments – turn to page 6 for details.

This course is created and delivered by CAT and validated by the University of East London.
Entry Requirements

- We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

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Join an open day: Find out more about the course, meet students and lecturers, and take a tour of the CAT site. Open days happen regularly throughout the year from October through to July. Book yourself a place online or by calling us.
Develop your knowledge and understanding of the impacts of environmental change on global food systems and the natural world.

Explore solutions that could help address some of the urgent and crucial issues that we face, looking at different approaches and competing paradigms.
Key Areas of Study

Sustainable Food and Natural Resources will enable you to:

- Become versed in climate mitigation and adaptation in food and natural resources, soil health, natural climate solutions and food and land management systems.

- Develop skills and knowledge to transform the impacts of food production and the way our natural resources are perceived, managed, produced and distributed.

- Learn about the social, practical, political and economic aspects of sustainable food production and natural resources management, and the effects of industry-scale farming, agriculture and materials production on ecosystems and our environment.

- Develop a rigorous understanding of the impacts of economic structures and environmental change on diet, health, sustainability and community empowerment.

- Gain direct practical training and develop your knowledge of the underlying theory in a range of related topics, such as soil ecology and health, growing methods and comparative yields, environmental impacts of materials, and design for sustainability.

Core Modules

- Sustainability and Adaptation Concepts and Planning (30 credits)
- Ecosystem Services: Land Use, Water and Waste Management (15 credits)
- Food Production and Consumption (15 credits)
- The Science of Sustainable Food Production (15 credits)
- MSc Dissertation (60 credits)

Optional Modules

- Environmental Politics and Economics (15 credits)
- Cities and Communities (15 credits)
- Energy Provision (15 credits)
- Sustainable Materials in the Built Environment (15 credits)
- Applied Project (15 credits)
- Work-based Project (15 credits)

Our flexible module structure allows you to choose how and when you study – turn to page 6 for details.

This course is created and delivered by CAT and subject to revalidation in 2020 by Liverpool John Moores University.
Entry Requirements

- We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

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Join an open day: Find out more about the course, meet students and lecturers, and take a tour of the CAT site. Open days happen regularly throughout the year from October through to July. Book yourself a place online or by calling us.
Great changes have occurred in human society in the past 200 years, but much of this has come at the expense of the natural systems and species that keep us all alive and healthy. Even in remote environments, evidence of anthropogenic pollutants shows that nowhere remains unaffected.

Through the Sustainability and Ecology programme you will gain a scientific understanding of the issues surrounding the protection and rehabilitation of nature whilst maintaining essential or useful ecosystem services.

Explore landscape management and local habitat management practices with a view to maximising environmental sustainability benefits. Critically evaluate the potential values and limitations of habitat restoration, rewilding, species reintroduction, biodiversity, conservation, health and nature, and urban green infrastructure.

CAT is situated in a UNESCO Biosphere, with easy access to a wide range of habitats, including woodlands, wetlands, high mountain pasture and woodland, heathland, riverine, coastal and transitional waters – many of which are represented at the CAT site.
Key Areas of Study

Gain a broad and contextual understanding of global and local scale ecological sustainability and how it relates to:

- Ongoing demands of modern society;
- The integrated nature of the systemic drivers of climate change and biodiversity loss;
- Ecological worldviews;
- Land use, biodiversity (species) needs for conservation and ecosystem service provision;
- The political and economic bases for sustainability in the sourcing, use and management of resources;
- Behaviour change relevant to delivering transformational environmental change.

Core Modules

- Sustainability and Adaptation: Concepts and Planning (30 credits)
- Ecological Assessment (15 credits)
- Restoration Ecology (15 credits)
- Ecosystem Services: Land Use, Water and Waste Management (15 credits)
- MSc Dissertation (60 credits)

Optional Modules

- Environmental Politics and Economics (15 credits)
- Food Production and Consumption (15 credits)
- Cities and Communities (15 credits)
- Sustainable Materials in the Built Environment (15 credits)
- The Science of Sustainable Food Production (15 credits)
- Applied Project (15 credits)
- Work-based Project (15 credits)

You can choose whether to take each of these modules entirely by distance or via a residential study week – turn to page 6 for details.

This course is created and delivered by CAT and validated by Liverpool John Moores University.
Entry Requirements

• We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
• IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

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Join an open day: Find out more about the course, meet students and lecturers, and take a tour of the CAT site. Open days happen regularly throughout the year from October through to July. Book yourself a place online or by calling us.
It is becoming clear that major systemic, political and societal changes are necessary to move towards true sustainability to address the serious consequences of environmental and climatic change.

Get to grips with sustainability and behaviour change theories at all levels: personal, organisational, community, institutional and governmental, drawing on theories of behavioural science and social and systems models.
Key Areas of Study

Studying Sustainability and Behaviour Change will enable you to:

- Explore behaviour change through case studies from across the world;
- Focus on cities, governance structures and policy, and interventions at community and individual level;
- Examine the role of public perceptions of environmental risk management and attitudes to behaviour change;
- Learn about the skills required to facilitate the necessary behavioural changes through successful communication and engagement strategies;
- Develop your own skills in leadership and communication.
Core Modules

- Sustainability and Adaptation: Concepts and Planning (30 credits)
- Theoretical Approaches to Transformational Social Change (15 credits)
- Communicating Transformational Social Change (15 credits)
- Environmental Politics and Economics (15 credits)
- MSc Dissertation (60 credits)

Optional Modules

- Buildings and People (15 credits)
- Cities and Communities (15 credits)
- Energy Provision (15 credits)
- Sustainable Materials in the Built Environment (15 credits)
- Food Production and Consumption (15 credits)
- Applied Project (15 credits)
- Work-based Project (15 credits)

Turn to page 6 for details of our flexible course structure.

Entry Requirements

- We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

Please apply online through our website: www.cat.org.uk/apply

Find out More

Visit our website: www.cat.org.uk/graduate-school
Contact us: study@cat.org.uk | +44 (0)1654 705953

Join an open day: Find out more about the course, meet students and lecturers, and take a tour of the CAT site. Open days happen regularly throughout the year from October through to July. Book yourself a place online or by calling us.

This course is created and delivered by CAT and validated by Liverpool John Moores University.
GREEN BUILDING
Master of Science | PG Diploma | PG Certificate

Develop a deep understanding and confidence around sustainable design principles and sustainable materials, their regulatory and legal requirements and their practical use.

You will also acquire a rigorous understanding of the social, practical, political, economic and environmental aspects of green building.
Key Areas of Study

This highly practical course will give you the skills, knowledge and experience to start designing and constructing sustainable buildings, as well as providing the theoretical underpinnings, covering everything from building physics to the policy background. Areas covered include:

- Introduction to sustainability and adaptation;
- Building design, planning and retrofitting;
- Selection and evaluation of materials and sources;
- Efficient use of materials and energy;
- Attitudinal and behavioural issues of energy and materials use and control;
- Post-occupancy evaluation of buildings performance, water and waste management;
- Policy and planning issues.

The MSc will end with a 60-credit individual design project comprising a technical report and critical evaluation. This provides the opportunity to complete your studies through focusing on a topic or project of your choosing.

Core Modules

- Sustainability and Adaptation Concepts and Planning (30 credits)
- Sustainable Materials in the Built Environment (15 credits)
- Circular Building (15 credits)
- Advanced Sustainable Building Techniques Project (15 credits)
- MSc Design Dissertation (60 credits)

Optional Modules

- Energy Flows in Buildings – Part A (15 credits)
- Energy Flows in Buildings – Part B (15 credits)
- Environmental Politics and Economics (15 credits)
- Cities and Communities (15 credits)
- Energy Provision (15 credits)

Our MSc courses offer the flexibility to allow you to study at a time and place that suits you – turn to page 6 for details.

This course is created and delivered by CAT and is validated by the University of East London.
Entry Requirements

- We ask for a Bachelor’s degree or knowledge and skills equivalent to degree standard.
- IELTS 6.5 (or equivalent) is required for applicants whose first language is not English.

Please apply online through our website: www.cat.org.uk/apply

Find out More

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<th>Dates*</th>
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*C Dates may be subject to change

**Subject to revalidation in 2020

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*Core, Optional, Recommended, Not applicable

**Subject to revalidation in 2020
Academic Staff
Our lecturers combine academic rigour with real-world experience working with government, industry and communities to implement sustainable solutions.

Students also benefit from regular guest lectures from renowned thinkers, specialists and practitioners working in a wide range of fields related to sustainability.
Dr Jane Fisher
MSc Sustainable Food and Natural Resources and Sustainability and Behaviour Change Programme Leader. Jane specialises in freshwater and wetland ecology, and has many years’ teaching and research experience, with LJMU.

Dr Adrian Watson
Head of the Graduate School. Before joining CAT, Adrian was Head of Division of Chemistry and Environmental Sciences at Manchester Metropolitan University. He has worked on the impacts of pollution on human health with the NHS and transport planners.

Tim Coleridge
MSc Sustainability & Adaptation Programme Leader. Tim is an experienced architect specialising in low-energy, sustainable designs. He has taught at UCL, the University of Nottingham and Kingston University.

John Carter
MArch: Sustainable Architecture Programme Leader. John has worked in various public and private practices for many years. He now combines teaching at CAT with real life practice with Pentan Architects.
Dr Alan Owen

A Chartered Energy Engineer, Alan’s research ranges from modelling sustainable energy resources in Europe to developing energy strategies in post-disaster areas of South East Asia. He primarily teaches renewable energy systems.

Dr Frances Hill

With a background in physics, and a PhD in Environmental Engineering, Frances lectures on heat transfers in buildings, and on renewable energy provision. She also teaches study skills including data analysis.

Louise Halestrap

Louise has a passion for ‘live’ research, including refurbishment, composting and building materials. She has worked in university, private and charity sectors on large scale composting and organics research and development.

Dr Saskia Pagella

An experienced teacher and researcher, Saskia has worked with the Wales Environment Research Hub and the Climate Change Consortium of Wales, amongst others. She has a PhD in Soils and Environmental Science.
Tom has a first class degree in biology and a PhD in ecology. He has also written and edited major publications on wetlands and was a key contributor to The Economics of Ecosystems and Biodiversity (UNEP), which made the case for economic valuation of our ecosystems.

Dr Tom Barker

Paul has been a lecturer at the Universities of Edinburgh, Bournemouth, Derby and the Open University, focusing on different aspects of human-environment relationships. He is also a Director with the Centre for Human Ecology.

Dr Paul Stevens

Ruth is an environmental social scientist with experience in industry, consultancy and academia. Her work focuses on the intersection of energy, society and the environment in the context of community resilience and system change.

Dr Ruth Stevenson
Siobhan has completed her PhD in Food and Water Security, and is completing her PhD in Human Geography at Aberystwyth University. She uses a transdisciplinary approach to research food and the environment.

Bryce is a consultant and educator in the fields of sustainable communities, construction and energy. He is currently completing his PhD in Architectural Science at the University of Nottingham.

CAT’s Zero Carbon Britain project looks at ways of getting to net zero emissions using technology available today. Paul has coordinated this project for 12 years, and is a regular contributor to the Graduate School.
Guest Lecturers

Our students tell us that one of the things they appreciate most about our courses is the range of guest lectures available to them on a wide variety of topics.

From practising architects working at the leading edge of sustainable design to specialists in food, ecology, transport, planning, economics and more, we draw on expertise from academia, industry and government to provide a wide range of perspectives on environmental solutions.

Kevin Anderson, Tyndall Centre for Climate Change Research
Recent guest lecturers include:

Kevin Anderson, Tyndall Centre for Climate Change Research
Susan Steed, Economist and co-founder of Brixton Pound
Tim Lang, Centre for Food Policy
Judy Ling Wong, CBE & Honorary President of the Black Environment Network
Rowland Keable, Director of Rammed Earth Consulting
Colin Tudge, Biologist, Writer and Director of the Oxford Real Farming Conference
Caroline Hickman, climate psychologist
Nick Parsons, expert on eco retrofitting
Kara Moses, facilitator of social change, nature connection
Tom Crompton, Director of Common Cause Foundation
Jane Powell, independent writer, researcher and activist
Tom Levitt, freelance journalist and Director of Oxford Farming Conference
Pamela Mason, researcher in food
Patrick Hannay, architect and journalist
Mark Drane, architect at Urban Habitats

Graduates of CAT also return to us as experts in their own fields to teach and lecture on our postgraduate programmes.

Tom Robinson, Founder of Adaptavate
Lizzie Wynn, Off The Wall Wales
Gwyn Stacey, Croft Design Collective
CAT Graduates
CAT Graduate Community

Our graduates have used the skills and experience gained at CAT to make a real difference, helping to bring about the changes our society needs to create a more sustainable future.

Some graduates make a positive contribution from within large organisations, and some start their own businesses to bring about the change they want to see. The courses are known for giving graduates a sense that they can make a difference, no matter how big the challenge.

“There is a fantastic network of alumni, and I have met friends I know I will stay in touch with for life, people I would not have met if I had not done the course.”

CAT student
What do CAT graduates do?

- Sustainability consultants (planning, architecture, engineering)
- UK government policy advisors: developed RHI policy at OFGEM, climate policy
- International NGOs, including a voluntary organisation increasing energy efficiency in schools
- Housing associations
- Services: water treatment
- Land: organic gardening organisation
- Education: Research Associates at UK universities, PhDs at: Oxford, Loughborough, Reading, Bath and Sussex
- New business and social enterprises in construction, building projects, property development
- Built environment sector: UK, EU and international
- Architecture practices and consultancy, new and existing
- Ethical wear: new business making slippers from recycled materials!
- Tourism: travel manager, advisor/board member within the tourism industry
- “One of the most important things to achieving ambitious goals is having a great team that will go the extra mile. They need to be technically well suited to the role, but most importantly, believe in what you are doing. That is exactly what we have found from a number of graduates from CAT over the last four years.”

Graduate Employer
Innovative Businesses

Over 50 businesses and projects have been formed as a result of interactions and inspiration at CAT, with many of them developing from the community of students and graduates.


Students have also set up a charity, RESET Development, which connects people with know-how in adapting to climate change, and also works internationally with partners developing community resilience.

IndiNature, co-founded by two CAT graduates, manufacturers innovative plant-based insulation materials.
Tom Robinson

Prior to studying at CAT, Tom spent a lot of his time travelling, climbing and surfing around the world. To finance such adventures he worked as a builder in the UK construction industry in between his trips, and eventually started his own business in the heritage building sector carrying out restoration work.

Throughout this time he encountered some recurring challenges:

1. Traditional building materials are not breathable and are not appropriate for dealing with the moisture problems that heritage buildings face.
2. One third of landfill is waste from the construction industry due to the lack of degradable products.

When Tom saw the MSc Sustainability and Adaptation course advertised, he saw this as the bridge between his practical experience and the opportunity to take on both these challenges.

Using his practical experience and theory taught through the MSc programme, Tom focused his dissertation on developing a product that balances performance, workability, and sustainability.

In 2014, Tom and another CAT graduate launched Adaptavate, an award winning company rethinking and redesigning the way building materials are produced, used and disposed of.

When he is not experimenting with bio-composites, Tom can be found speaking about them and their benefits, or making the most of nature’s playground, surfing, climbing or walking.

“The perfect balance of theory and practice with really inspirational people.”
Janna Laan

“CAT’s a place which is full of people who have so much hope and energy. It’s more than a place to study, it’s a whole experience.”

During her undergraduate studies in Interior Architecture, Janna became very interested in sustainability and incorporated this passion into her undergraduate degree portfolio. Inspired to help change things for the better, Janna decided to study further with a strong focus on sustainability and was drawn to CAT’s perspective of looking at architecture within the built environment as a whole, after she was introduced to CAT by a previous student and decided to join the Part II Sustainable Architecture course.

Straight out of CAT, Janna and a fellow student set up a business called Building Naturally, which is a network directory for the natural building industry. In 2015, Janna also founded Grain Architecture, a design practice specialising in the use of natural materials, which has now taken on many projects across the south of England, from house extensions and new-build houses to community developments. In the future, she aims to create a rural community with shared resources as a model for rural development and agriculture, and for a healthier and more resilient way of living – an idea that she explored during her final project at CAT.

David Nugent

Having previously trained as an architect and later moved into the housing sector, David joined our MSc in Sustainability and Adaptation in 2013. After graduating in 2016 he became Director of Canopy Housing in 2017, a charitable housing association in Leeds who retrofit long-term empty homes with volunteers and homeless people who get to move into the properties once their refurbishment is complete.

Since moving into the role, David has been able to redesign the charity’s business plan and move low carbon, low energy homes up the agenda. After studying on the MSc he gained the confidence and knowledge to amend the charity’s strategies and policies to focus on tackling climate change. Through developing a Sustainability Action Plan, the charity has improved the specification of their retrofit work, started doing more environmental work, and have also introduced schemes to reduce waste, reduce water usage and educate tenants around energy-saving.

The qualification has also broadened his understanding of a variety of environmental issues and topics, which has made it easier for him to talk with credibility to architects, planners, and academics.

“CAT changed the way I looked at the world. It taught me that whilst climate change and degradation of the environment are the most pressing issues facing the world today there are positive stories too. I love working with people and at Canopy we have shown that whole-house retrofit can be fun and accessible to all.”
Elgan Roberts

“I wouldn’t have got this job without being on the course. Working in a bigger company has allowed me to expand my career. I’m directly using the skills I gained on the course in my work.”

With an undergraduate degree in mechanical engineering and several years’ experience in the agricultural industry, Elgan was keen to build on his skills and knowledge and develop a career in renewable energy.

Elgan joined CAT’s renewable energy MSc in 2012, studying part-time while working with a small wind installation company in Bangor. Six months after starting the course he got a new job with a bigger national company, Carter Jonas, working on larger scale schemes and a wider range of projects involving hydro, solar, wind and biomass.

On starting the job at Carter Jonas, Elgan said: “I wouldn’t have got this job without being on the course. Working in a bigger company has allowed me to expand my career. I’m directly using the skills I gained on the course in my work.”

Since graduating in 2015, Elgan has moved to the National Trust, where he now works as a Renewables Project Manager.

Ffion Thomas

Ffion graduated in 2019 as one of the first students on our MSc in Sustainable Food and Natural Resources. Before studying at CAT Ffion had previously worked in German banks and then as Head of Risk Management and Compliance at Mitsubishi UFJ Trust. Looking for a change in her career and life Ffion was able to transfer the research, practical and analytical skills she’d gained through her career, to her studies at CAT. During her studies, Ffion was part of the team looking at the changes to pesticide regulations in the lead up to Brexit. The important work Ffion and the team were doing reached the national press and Ffion was quoted in the Guardian. Her analysis highlighted that the changes could weaken the rigour of the process by which pesticides are approved and monitored in the UK.

Following on from this and the work Ffion undertook in her dissertation, she is now working towards her PhD focusing on agroecological approaches to managing ash dieback at the Centre for Agroecology, Water and Resilience at Coventry University.

“Studying at CAT was life-changing, and has enabled me to take on a new career in an area I love, but which I never thought would be feasible, given I didn’t have a scientific background.”
Sonya Bedford

Sonya graduated from CAT’s renewable energy MSc in 2018 and was awarded an MBE for services to community energy the same year, along with a number of other environmental awards.

As Head of Energy at Stephens Scown LLP, Sonya leads a team of solicitors specialising in energy policy and law. She advises industry on legal requirements for large scale renewable energy developments, including grid, infrastructure, policy, licensing and supply issues.

Sonya sits on the board of five community energy groups and is one of the founders of the innovative and ambitious Zero Carbon Wedmore group.

In her spare time, she sings with a band and goes wind turbine spotting!

“The MSc at CAT was one of the most challenging and rewarding endeavours I have undertaken. My work in the energy industry as a lawyer now has a new dimension because of the learning from CAT. I can now truly understand renewable technologies and apply my learning to make my work much more valuable in all senses. Through CAT I have also developed my work in helping to deliver zero carbon projects. CAT graduates are the most successful I have met in the sustainable/energy world, I think it’s the combination of technical knowledge and the CAT magic!”